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# *Jesuit Educational Quarterly*

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OCTOBER 1958

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CURRICULA

EXTRACURRICULARS

ENGINEERING

LAY FACULTY

PURCHASING

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Vol. XXI, No. 2

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(FOR PRIVATE CIRCULATION)

# Our Contributors

*The sermon* by the late Monsignor Knox was called to the attention of the JEQ by Father John H. Collins, S.J., of the New England Province. The sermon appears in a volume of Knox sermons edited by Evelyn Waugh. Inasmuch as the edition was limited to 550 copies, probably few of our readers have seen it.

*Extracurriculars* in the High School get a rather thorough treatment in the twin articles of Father Perri and Mr. Horgan. Father Perri is Principal of Jesuit High in Portland, Oregon. Mr. Horgan is a Second Year Theologian at Woodstock and taught at Regis, New York.

*Father Laurence V. Britt* should speak with authority on curricula. At present, Dean of Arts and Science at University of Detroit, he formerly was in the same position at Loyola U., Chicago.

*The upsurge* in scientific education initiated by the influence of sputnik and space travel consciousness has been partially anticipated by at least one Jesuit College as you can see from Father O'Connor's article. Father is Chairman of the Physics Department and Director of the Co-operative Program at St. Joseph's College of Philadelphia.

*Father James A. King* writes his article with the background of experience gained at Santa Clara and now in active use as Dean of Arts and Science at University of San Francisco.

*Unless our research is all awry*, Brother James Kenny breaks into the ranks of contributors of the JEQ as the first Brother contributor. Brother Kenny is the Business manager of Fordham University. He received a Carnegie Grant this past summer to attend a course in College Business Management at the University of Omaha. He was recently named "Boss of the Month" by the Bronx Business Association.

*Mr. Jasper Gerardi* is Assistant Dean of the College of Engineering at the University of Detroit. Since 1947 he has coordinated the pre-engineering programs of 20 Catholic Colleges with that of the engineering curricula of the University of Detroit.



# Jesuit Educational Quarterly

October 1958

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## CONTENTS

### AD MAJOREM DEI GLORIAM

*Mgsr. Ronald Knox* . . . . . 69

### THEORY AND PRACTICE OF EXTRACURRICULAR ACTIVITIES

*Joseph E. Perri, S.J.* . . . . . 73

### EXTRACURRICULAR ACTIVITIES IN THE JESUIT HIGH SCHOOL

*Edward D. Horgan, S.J.* . . . . . 80

### STUDENT PERSONNEL CONTACTS AND INCREASED ENROLLMENT

*J. Clement Ryan, S.J.* . . . . . 87

### MULTIPLICATION OF CURRICULA

*Laurence V. Britt, S.J.* . . . . . 94

### ENGINEERING AND ELECTRONIC PHYSICS AT ST. JOSEPH'S COLLEGE

*John S. O'Connor, S.J.* . . . . . 102

### THE RECRUITMENT AND RETENTION OF LAY FACULTY

*James A. King, S.J.* . . . . . 107

### THE PURCHASING FUNCTION IN HIGHER EDUCATION

*Brother James Kenny, S.J.* . . . . . 113

### CATHOLIC HIGH SCHOOLS AND CATHOLIC COLLEGES OF ENGINEERING

*Jasper Gerardi* . . . . . 119

NEWS FROM THE FIELD . . . . . 127

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## ADDRESS COMMUNICATIONS TO THE EDITOR

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JESUIT EDUCATIONAL QUARTERLY

# Ad Majorem Dei Gloriam\*

MGR. RONALD KNOX

*Et dixi in corde meo, Si unus et stulti et meus occasus erit, quid mihi prodest, quod majorem sapientiae dedi operam?*

*Why then, I said to myself, if fool and I must come to the same end at last, was not I the fool, that toiled to achieve wisdom more than he?*

ECCLESIASTES: 11, 15

The Jesuits in Oxford! What a temptation, when you are invited to celebrate such a theme, to go back over the history of the past! To recall the tradition that always, from the day when Edmund Campion was laid by the heels at Lyford, to the time of Catholic Emancipation, there was a Jesuit priest somewhere within call of Oxford, if you knew where to find him! To remind ourselves that Oxford really was, once, the home of lost causes, an Oxford which accepted the Reformation slowly, so grudgingly the Hanoverians. To sigh for the old days of Antony a Wood, and Tom Hearne, when Oxford was content to be a backwater, because the tide of fashion ran foul!

The Society of Jesus, too, is the home of lost causes; what other institution in the world looks back on such a long record of failures that nearly succeeded; from the theocracy of Paraguay to those Christians, come down from Francis Xavier, who were wiped out by the atom bomb at Nangasaki? Is there, perhaps, something in common between these two great products of Christian civilization, the University of Oxford and the Society of Jesus; are their destinies somehow linked, their tempers somehow congenial?

St. Ignatius, we all know, was himself a University man. But we should not be tempted to describe St. Ignatius as a man of the Universities. We think of him not as a don, but as an undergraduate. And at the same time, we think of him not as a youthful undergraduate, but as one of those older men who (as the late head of my own College used to say) "make all the trouble." By the Paris authorities of his own day, he was no doubt remembered as the disturbing influence which prevented that ripe scholar, Francis Xavier, settling down as he ought to have. All very well, to go round button-holing people and asking how a man is the

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\* EDITOR'S NOTE: This little known sermon was preached by Monsignor Knox on October 30, 1946, at Campion Hall, Oxford, to commemorate the fiftieth anniversary of the establishment in Oxford of the Jesuit House of Studies. Our printing is through the courtesy of The Tablet, London.

better for it, if he gains the whole world at the expense of losing his own soul; but the men come up here to work, and they will never get the best out of the place if they are at the mercy of these stray evangelists. To the Paris authorities, St. Ignatius must have seemed typical of those predatory idealists who come up to the University, not to complete their education, but to enlist recruits for some movement, some organization of their own. Little wonder if the Company of Jesus was hardly more popular in sixteenth-century Paris than in seventeenth-century Oxford.

And were we right in supposing that the Society which began life with such a record would fit, as a matter of course, without friction, without need for adjustment, into the life of a University. With the older religious orders, not cradled in times of controversy, the *concordat* is easy. The University is ready enough, in ambition at least, to exchange mottoes with them. The sons of St. Benedict, with their patient researches into the history of which they feel themselves to be a part, may serve as good models for what the ideal scholar should be, if only he could secure the leisure to imitate them. PAX is the motto every college would fain write up over its library—if it were not for the men. And the Black Friars, with their fearless attempt to solve the central riddle of existence—that is an ambition with which the academic philosopher finds it easy to sympathize, even when, in an age of disillusionment, he has come to the conclusion that the riddle has no answer. DOMINUS ILLUMINATIO MEA; he, like themselves, is in search of enlightenment, and a single sentence will cover his aim and theirs, if you do not inquire too closely into the grammar of it. But, AD MAJOREM DEI GLORIAM—that sounds a note of challenge. It limits too narrowly the scope of human achievement, the range of human motive. As a phrase it is all right, but the intention of it is more questionable. Does it not simplify the whole of life too much, by reducing it all to a mechanical hierarchy of ends and means? *Quid hoc ad aeternitatem?* ask the meditation books, “How does *this* bear on eternity?”—as if *that* were the only question that mattered. Is not this to reduce the rest of our human values, the quest of knowledge for its own sake, the quest of beauty for its own sake, to the level of childish games?

I am, deliberately, overstating the terms of the contrast. But Matthew Arnold described Oxford, in his day, as a city which had never given herself over to the Philistines; and there *is* a kind of holy Philistinism about the Exercises of St. Ignatius; they do preach a kind of Utilitarianism *in excelsis*. They are a counterblast necessary then, and perhaps not quite unnecessary now, to the humanism of the Renaissance. They disturb our complacent habit of mind, so dear to the academies, with

an echo of the verse which Saint murmured to Saint in the crowded classrooms of Paris: "How is a man the better for it, if he gains the whole world at the expense of losing his own soul?"

Notoriously, there is no department of human learning which does not reckon Fathers of the Society on the list of those whose labours have adorned it. Notoriously, there is no Order in the Church that cultivates so generously, and utilizes so fruitfully, the varied talent which is to be found among its members. But always, or so the world reasonably suspects, there is a hesitation, an *arriere pensee*; not Learning as such, not Art as such, but the glory of God as these can serve to promote it, is the object consciously envisaged. And all the humanist in us is ready to rise up and take offense. We are so schooled to an essentially pagan way of looking at things, that we suspect a certain dilettantism, a certain want of naturalness about the learning that runs thus harnessed to the thought of eternity. Unconsciously we assume that a man cannot be a real scholar, a real scientist, a real historian, unless he is a monomaniac on his subject.

And yet we know that we are wrong. We know that the pursuit of learning, if it goes unchecked, can lead to a kind of idolatry. Historical truth, scientific truth, the method of philosophy, that delicate balance of the mind which we call scholarship, are in themselves values which can claim our reverence; you can think of them as worth cultivating for their own sakes, although in fact the light which shines from them is not theirs; God is their Sun, and it is from Him their radiance is borrowed. But all these desirable aims, if you see them against the background of a single human life, are only toys after all, only extras; they are not, taken alone, worth living for. The scholar who lives only for his subject is but the fragment of a man; he lives in a shadow-world, mistaking means for ends.

I would suggest, then, that the completeness of being which the very word "University" implies is not achieved, in this modern world, unless the Fathers of the Society are there to leaven it. As they slip into their shiny black gowns, of a different cut from ours—gowns (you would say) not eagerly possessed but picked up absent-mindedly, at the last moment, in the porter's lodge—they warn us that human learning is only a part of life, not life's end or life's essence. They will make, to be sure, a brilliant and varied contribution to the academic perfection of our institute, enriching it with the profound thought of a Rickaby, the political vision of a Charles Plater, the literary genius of a Hopkins. But all that will be, from their point of view, a by-product; sparks struck out incidentally from the anvil of a dedicated life. Predominantly the Fathers of the Society are with us as University demonstrators, demonstrating what is,



to flesh and blood, indemonstrable—that all our studies are, in a certain sense, toys; their subject-matter passes with the passage of time.

St. Ignatius, persuaded by the omen to spare the blaspheming Moor, is still the model his sons imitate. They ride on, with their faces set towards a dawn which is not of this world; and we are left, babbling of this and that, in their wake, stretching out our hands towards the unattainable, and, by the example of their pregnant silence, consciously belittled.

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I trust that no one will ever be able to say in truth of the present or any other administration that it demonstrated either a lack of interest or a special favoritism toward any segment of Columbia's vast academic spectrum. The health and vigor of all must be zealously protected and encouraged.

This conclusion does not imply that a university should undertake to do everything. While it must be sensitive and alert to new demands and new opportunities, it must use its finite resources in such a way as to derive maximum benefit from its special advantages and capabilities. For Columbia, the one test to be employed is that in any given field we are or believe that we will be able to carry on teaching and research of a quality not to be surpassed elsewhere. The corollary of this principle is that we must not shrink from curtailing or abandoning specific activities which we may do indifferently well and which may be carried on to better advantage in sister institutions. At a time when the totality of human knowledge increases at a staggering rate, the expansion of our activities is inevitable. But the greatest care must be taken to ensure that as we expand, we are mindful of the need to abandon courses and to reduce or terminate activities that have lost their prime significance in this rapidly unfolding panorama. If we try to do too much, we shall so fragment our resources and our energies that we will be unable to do anything superlatively well.—President Grayson Kirk, Columbia University Commencement Address, June 3, 1958.

# Theory and Practice of Extracurricular Activities\*

JOSEPH E. PERRI, S.J.

Certainly every Jesuit high school deserves the reputation of academic excellence. We all realize that our reputation scholastically will endure long after the fanfare and glory of an extracurricular triumph has faded away. Yet historically and currently Jesuit high schools recognize the significant, though supplementary, role played by extracurricular activities.

Not a day passes without administrators being brought into sharp, sometimes disturbing awareness of the extracurricular life of the school. "Father, I need transportation for the team." "Father, Room 102 is occupied, when will I hold the debate club meeting?" "Father, Mr. Jones has a sore throat, who is going to direct the glee club?" "Father, the band is raising the roof below, where is the moderator?" And so the Canticle of extracurricular rolls on verse after verse. Somehow, we all live with them, tolerate them, and, honestly, in moments of peaceful rationality, recognize their true worth.

Yet, like all activities of the school, extracurriculars demand that we periodically pause and re-examine their purpose and place in the school program. This, because we are all interested in deriving the greatest possible value from the program both for the good of the school and the benefit of each of the students.

It is in this light therefore that I have set myself to examine the theory and practice of extracurricular activities in the Jesuit high school of the past and present.

Father William McGucken of the Society, in his excellent book "The Jesuits and Education," tells us that "from the very beginning the Jesuits encouraged extracurricular activities in their schools. The "Academies," for example, received ample attention and encouragement in the Ratio Studiorum. They were designed as an outlet for the more gifted students. The drama, too, was always held in high esteem in Jesuit schools; many pretentious tragedies and comedies were staged by Jesuit Colleges in the heyday of their prosperity in Europe." Father goes on to tell how

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\* Presented at the Meeting of Secondary School Delegates, Annual Meeting of the Jesuit Educational Association, St. Joseph's College, April 7, 1958.

classical productions along with the customary dramatic performances were undertaken annually or oftener in our early American Jesuit schools. He states further that "literary and debating societies flourished from the beginning, all intended to foster a taste for literature and eloquence. Indeed, during their entire history, the American Jesuit schools have been active in promoting what used to be known as "forensics." There were annual elocution, oratorical, and debating contests . . . Games and athletics, intramural and interscholastic contests have received due encouragement."

But our most distinguished extracurricular, an organization that has its unquestionable place in Jesuit schools of the past and present, is the Sodality. Started in the Roman College in the sixteenth century it has spread through time and space to Jesuit schools the world over, promoting spiritual leadership and personal sanctity in the lives of generations of Jesuit students. We all recognize the purpose and function of the Sodality in our schools, whether it always enjoys the emphasis and care it deserves is our frequent, if not constant concern. The subject itself merits special consideration above and beyond the scope of this paper. In transmitting it to more competent authorities, may I respectfully suggest that we harken again to the writings of the Popes, the Fathers General and the recognized authorities on the Sodality.

In the *Ratio Studiorum* itself we find sufficient reference to activities carried on outside the pale of formal instruction. Edward A. Fitzpatrick in his study on "St. Ignatius and the *Ratio Studiorum*" quotes the *Ratio* of 1599 on the subject of Academies as follows "Let him (namely the Master) establish academies, if it seem good to the Rector, according to the rules especially written for the purpose; in these, let the pupils meet on holidays, that they may avoid laziness and evil practices." Later in his translation of the rules of the *Ratio* of 1599 Mr. Fitzpatrick lists the rules governing the nature and conduct of Academies. From a cursory study of these rules we are easily convinced that extracurricular activities, at least of a more academic nature, enjoyed a significant place in the educational tradition of the Society. It is true they did not bear the modern name of extracurricular but the program did, nevertheless, exist for the all embracing improvement and enrichment of our students. Consequently they served effectively in fostering intellectual stimulation as well as providing invaluable means for encouraging original work, personal initiative and the entertainment of all.

It is gratifying to know that extracurricular activities found an honorable role in early Jesuit education. We are not surprised at this fact, for we are all well aware of the intention of St. Ignatius to incorporate into the educational program of the Society's schools the best features of the



educational programs of his day. In addition to formal instruction directed towards the development and formation of the mind there was always in his mind the intention "that those who frequent our school in search of learning should at the same time acquire a knowledge of what is rightly expected of a gentleman and a Christian." (Constitutions of Society of Jesus.)

Though St. Ignatius and those who assisted in drawing up the Ratio Studiorum evidently did not have in mind the detailed program of activities we today term extracurricular, yet we would not be justified in concluding that the reasonable development and extension of these activities should have little or no place in our schools. Actually we all recognize their de facto existence in the twentieth century American, Jesuit high school.

But today, with the spotlight focused so intensely and steadily on American education, on all its phases and ramifications, it might be worth while to turn our own spotlight of critical self-evaluation upon our selves and, in particular, upon the extracurricular life of our schools.

What will be offered here intends by no means to be an exhaustive or even comprehensive treatment of the subject. Much has been written generally on extracurricular and cocurricular activities in our country over the past twenty-five or thirty years. For the most part the literature on extracurricular activities is predominantly descriptive, consisting largely of surveys of group work in educational institutions and accounts of programs and procedures in individual schools and colleges. Only in very recent years has an effort been made to present the philosophy underlying group activities outside the curriculum.

"For many group activities in secondary schools and colleges are social laboratories in which students may learn the ways of democracy. In the group-work process, guided by a competent leader, each member grows personally and contributes to the realization of the group goal or purpose. Since individuals have different needs, a variety of activities should be offered. Some students want to progress in the development of their special talents; others need rest and recreation; still others, joy in creative work, fellowship, and cooperation in a common task. Unless the student selects activities to meet his needs, the potential values of group activities will not be realized." So writes Ruth Stang, professor of Education, Teachers College, Columbia University in her 1946 edition of *Group Activities in College and Secondary Schools*.

With the emphasis of late on life adjustment education our American schools found themselves in the difficult, if not impossible role of providing all the life needs of the student. The school was expected to care for all the immediate needs and interests of youth so that it was forced to

neglect more important needs. Praiseworthy indeed is the objective in developing an educational program that would provide useful living purposes for the good of the individual student, yet their pragmatic philosophy of education led them to extreme consequences which have seriously weakened the prestige of American education by placing the stress too much on the individual needs as part of a democratic group and not enough on the training and development of the mind.

Out of this philosophy of education therefore would readily emerge a growing, disproportionate emphasis on extracurricular activities of all types and description. Furthermore, it is easy to see why, in the minds of some educators of this school of thought, extracurricular activities would rank in importance with regular curricular offerings, hence would more properly bear the title of co-curricular activities. Schools curricularly and extracurricularly would come more to resemble vast super markets with every imaginable offering displayed on equal merit for the selection of the student. Speaking of supermarkets a high school in California announces that it will give scholastic credit to students for working as carry-out boys. The extra curricular program becomes in these schools more often than not an activity geared to entertain or occupy the students for lack of something worthwhile.

I have dwelt at some length on the above problem that it might assist us in reaching a clearer perspective in our consideration of the extra-curricular program as we find it in Jesuit education on the secondary level. In the schools of the Society, extracurricular activities are as the word expresses it, outside of and supplementary to the curricular life of the school. As supplementary they provide effectively towards the development of character and the formation of excellent disciplines so essential in the training and development of the mind.

The ideal of our entire educational system is to establish a harmonious and vital interdependence of intellectual and moral qualities in our students.

To this end is a wisely developed and carefully administered extra-curricular program ordained.

It becomes more manifest daily the great contribution an extracurricular program makes to the lives of our students. Out of all the activity emerge young men rich in the qualities of leadership, schooled in self-discipline, tolerance, initiative, generosity, loyalty and dedication. It is fascinating to watch and rewarding to behold the young boy crossing our threshold as a beginning freshman, still demure, reticent and insecure, barely severed from the wise and cautious care of his parents; and then to see him the day of his high school commencement: a young man with an air of confidence and security born of the realization that he has moved into the

arena of true and modest manhood. Then we are aware of the good achieved by our years of effort and dedication. Then we realize that this or that extracurricular activity coupled with the curricular life of the school has successfully produced the poised young man before us.

The portrait of the young man we have just given ourselves is not the product of chance, or spontaneous combustion. Nor would we claim that he is the result of the school life alone. But we can reasonably conclude that the school program, in its entirety, has contributed immeasurably to the finished product. So that as the school program is perfected in theory and practice so likewise should the product of that program be, all other things being equal. In this matter a wisely conceived and prudently moderated extracurricular program contributes its fair share.

Our experience shows that student activities have contributed much in awakening and fostering the interest of a boy in the curricular life of the school. We have all seen how interest in the newspaper, debating, oratory or dramatics awakens and sharpens interest in English, Latin, Sociology or history. The boy who becomes active in the science club develops new insights and motives for success in physics and chemistry.

Hence a tendency to promote extracurricular activities as an end in themselves must at all times be carefully checked. A worthwhile program of extracurriculars must be conceived, developed and promoted for the good of the students individually and collectively and not for the school or the inordinate aims of moderators, directors and coaches. This certainly emphasizes the necessity of alert and wise supervision by school administrators. It is obvious that individual students have different needs, talents and preferences. It is equally obvious that the curricular demands of our schools leaves little to student preferences. We inform them that practically their only elective upon entering was their election of the school, now that they have made that choice we will so cooperate that their confidence in the school is not unfounded.

Many of our well adjusted students will seek out the activity that suits their preference and needs. They are often mature enough so that with little guidance, they select the activity or activities that develops in them the qualities of leadership most desired and needed. If our program is to stop with this group then it offers little reason for its existence. It must reach out to all those lads who through shyness, inertia, or indifference take little or no active part in activities outside of the classroom. Discretion on the part of teachers, moderators and administrators must be wisely exercised in interesting this class of students in the extracurricular life of the school. Undue pressure will never succeed. Especially in our schools we must seek out new ways of attracting students into one or other of the school activities. For some only an invitation is necessary, for others the

opportunity of freely volunteering wins participants. For a few, days and weeks of disposing by a class teacher, counselor or spiritual father will achieve the desired effect. In some instances an invitation extended by a fellow student affects the attraction. In every case, if we are convinced of the merit and worthwhileness of our program, the effort expended is not in vain especially when we realize that an extracurricular activity has been chiefly instrumental in awakening in the boy a new motive for study, a new attraction to the school and often a revitalizing of his spiritual and moral life.

Practically all the activities in our schools exhibit their intrinsic worth and attractiveness. Their effectiveness will therefore depend upon the enthusiasm and vital interest of the moderator. His ability to inspire leadership, furnish good direction, counsel and guidance while at the same time fostering initiative, responsibility, self-confidence and self-control is essential. If the moderator is inclined to be sharp or caustic, if he is prone to severity and uncalled for use of disciplinary action, if he is unduly reluctant to give of his time and energy then the activity is doomed to an early demise. In this connection moderators must strive to develop a comprehensive appreciation of the extracurricular program of the school so that they will readily recognize the limitations and relative place this or that activity occupies in the school program. Such awareness eliminates the undesirable tendency of some to compete for the talents and loyalties of individual students. Where conflicts arise, and they will in the best regulated programs, the decision of the principal must be sought and accepted.

The matter of control is perhaps the most acute problem and yet the most sensitive and delicate in the daily execution of an extracurricular program. Where close cooperation exists between administration and faculty, we will find the kind of responsible leadership that will achieve the goals and objectives of a carefully conceived extracurricular program. Such leadership is rich in sensitivity to the needs of time and place, to individuals and their potentialities.

We of the Society are especially fortunate both by training and the nature of the life we live to provide the very best elements for an extracurricular program. As dedicated religious men our attention can be focused more completely and with less outside distraction on the interests of our boys. Our asceticism and education nurtures in us the sincerity and genuineness, the enthusiasm and vitality, the vision and interest so essential in a good moderator and guide. Extracurricular activities are those many areas St. Ignatius must have envisioned when he spoke of the good religious of the Society would effect in the lives of the youths committed to their care. Though our influence should be felt strongly in



the classroom, no one will question the unique and the immeasurable good that is derived from the long and frequent association away from the formal restraints of the classroom.

In summary, extracurricular activities must serve the individual and collective interests of the students. They should never be an end in themselves, nor should they be a vehicle for the interests and prestige of the school alone.

Those activities are to be given priority both in time, energy and budget which are more closely related to the curricular program of the school, becoming the handmaid of the academic life of our schools. Each activity should have its existence only because it is a recognized way of filling a real and significant need in the adolescent lives of some or all of the student body. Both the eagerness of students to participate in many activities, as well as their shyness to enter any activity should always be a prime concern of a well moderated extracurricular program. Where such a program exists there will not be the over-emphasis on extracurriculars at the expense of the curricular, both in time, energy, and money. Nor will the talents of the gifted be exploited while the less gifted are neglected.

What has been said above applies with special emphasis to the athletic programs in our schools. It is time for the pendulum of athletic extracurriculars to swing back in the direction of moderation. The question of doing away with competitive or inter-scholastic athletics is more than just an academic one. Would not our schools, the extracurricular program included, be better without competitive sports?

By now it is evident that a detailed treatment of the individual activities in our schools has been omitted in favor of the excellent study to be found in the "Manual for Jesuit High School Administrators."

May the final appraisal and evaluation upon our schools and the extracurricular life be not similar to that published in a metropolitan newspaper and made by the senior class of a large city high school. "High school work must show more concern for solid education and homework. We had it too easy. We were too often and too much taken up with activities which interfered with serious study. Most of it was not worth the time it takes, yet we feel we have to do it because activities are made to look too important in the meriting of college scholarships, solid education not important enough."

Department of Tautology:

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EYES EXAMINED WHILE YOU WAIT

# Extracurricular Activities in the Jesuit High School

EDWARD D. HORGAN, S.J.

Extracurricular activities are here to stay in Jesuit Schools. The professional equipment of our high school administrators and teachers must include a clear idea of the proper place of these activities in our educational scheme, together with a practical understanding of the best means to achieve their proper end. In this article, I would like to submit some reflections and tentative suggestions on this somewhat neglected topic.

Our Jesuit code of education rightly demands that extracurricular activities be subordinated to regular academic work. An obvious corollary is that they must not demand so much time and attention as to notably interfere with the students' class work and required home study. Traditionally, these activities in Jesuit schools are chosen not on the sole basis of student interest, but rather in function of the total educational aims of the school. While we insist on this due subordination, few will deny that extracurricular activities have a unique value in our schools. Experience has shown that certain desirable qualities can be cultivated more directly in the activity office than in the classroom. Among these we could include leadership, responsibility, social balance and cooperativeness. Most significant of all is the opportunity for self activity found in a properly structured activity. We shall return to this point later. I introduce it here only to stress the specific correspondence with the educational norms of the *Ratio Studiorum*.

As usual there is little difficulty on the level of theory. But some hard thinking and shrewd planning is required to spell out our theory in terms of concrete application. In this context two key areas are the techniques of motivating student members and the achievement of genuine student activity.

## I. Motivation Techniques

In the eyes of a Jesuit educator, the goal of extracurricular activities is to complement and supplement the curriculum. We maintain these activities to help in the total formation of our students. From this it does not necessarily follow that self improvement should be presented to the students as their main motive for participation. I suspect that this approach is frequently the least effective with an adolescent. Nor do I think it healthy that such a self centered motive should be exclusively stressed.

When approaching a student I would prefer to present the purpose of an activity as something outside himself, e.g. upholding the good name of the school, service to his fellow students or providing good entertainment for others. This type of motivation seems to me psychologically more effective and educationally more sound. Despite some appearances, there is a latent generosity and proverbial idealism in the average teenager. This good and powerful force can be better exploited if the goal is other-centered rather than ego-centered. Secondly, such motivation is more effective in realizing the educational purpose of activities. There are some fine qualities in the human personality which flourish best when they are not consciously adverted to. For example, a moderator should certainly desire his club members to be generous, but I do not think he would want them to be too conscious of their own generosity.

To illustrate the preceeding, let us consider a moderator of debating who is combing his imagination for motives to recruit new members or revive fading members. Certainly his own motive should be to improve the personality of his debaters by developing their speaking ability, public poise etc. But if he presents this as the main motive to the students, he may find that he has missed their wave length. On the other hand if he appeals more to their pride in the school and the need to uphold the school's 'rep' in the coming interscholastic debates, he will frequently trigger a built-in enthusiasm. Further as his debaters work and prepare with this *outside* motive in mind, they will actually be getting the desired training without being too aware of it. The educational *end* of an activity can be the *means* in the minds of the students. Frequently this arrangement is the most effective. Again, we can note the carry-over value of such motivation. In later life, we hope our students will build their lives not around their own development, but around a worthy goal outside themselves. We expect a father to work for his family, a priest to work for God's people. In such other-centered lives, we can expect to find devotion in the father and generosity in the priest, although neither is too conscious of these virtues.

An experienced principal or moderator will inject a reservation at this point. The motivation machinery I have been proposing floats a little too far above the real world of high school students. In the concrete order, students join activities for such less exalted motives as prestige (i.e., their picture in the year book), conformity or companionship. The objection, of course, is valid. Most human motives are mixed. But let us hope that an ideal is not completely unreal because it cannot be completely realized. More positively, I don't think the above suggested approach will be utterly ineffective, if the students see that the student activities in the school really involve activity by the students.

## II. *Student Activity and Responsibility*

To present as the goal of an activity the good of the school or service of fellow students will be largely ineffective if the students sense that it is the moderator who does all the important work. Let us not underestimate the shrewdness of an American teen-ager. They will take part fully in an activity only if they see that *they* are the ones who succeed or fail in gaining the goal.

No orthodox Jesuit educator will gainsay the principle of self activity. It would be strange if this characteristic principle of ours were not applied in extracurricular as well as curricular education. A practical corollary is that within the bounds of prudence a significant amount of initiative and key operation in an activity should be in the hands of the students. Where this is the case, the students rise to a solid sense of responsibility and at the same time are getting real training, which in Jesuit terms means active training. If on the contrary it is the yearbook moderator who actually handles the detailed layout of the book, and the debate moderator who writes all the speeches, then the students' sense of honesty punctures any fictitious personal pride or feeling of accomplishment. They sense that the success of the activity does not depend on them at all. They are merely messengers of the moderator. In such a context, it is hard to see what educational benefits they receive other than a certain willingness to help and a passive appreciation of the moderator's good work. I exaggerate the case to emphasize the results.

The amount of formative self activity in any extracurricular group is largely governed by the attitude of the moderator. A school principal rightly holds each moderator fully responsible for his activity. This implies that the moderator must retain full and final control. The touchstone of a good moderator is the *manner* in which he exercises this full control. One way is for the moderator to plan and execute every important operation himself. Certainly in this way his control is sure, but I would question the name '*student* activity.' This unhappy system is frequently traceable to the moderator's myopic sense of responsibility. A moderator, especially if he is a new teacher, can feel that the school authorities and his fellow teachers will judge his performance by the success or failure of 'his' yearbook or 'his' team. Let it be quickly said that this fear is not always without foundation. Prompted by this concern, a school magazine moderator can be convinced that his main job is to put out the best magazine possible. And generally speaking, the magazine will be better if the moderator himself directs everything in detail and perhaps even does some extensive 'rewriting.' Such a sense of responsibility, I say, is nearsighted because it does not focus properly on



the true objective of any activity, namely the development of the student through self activity.

The influence of the school principal in this attitude is obvious. It certainly pertains to the principal's office to be concerned with the educational dimensions of the extracurricular activities. Consistent with Jesuit theory, I feel that a principal should explicitly tell the moderators that he will judge their work not primarily by the success of the 'product' but by the solidity of training and development the students derive from each activity. Both principal and moderator should have enough educational integrity to accept a less than perfect product if that is necessary to insure genuine student activity in the process. It is not always easy to maintain this principled attitude, when both men know that the product will be scrutinized by other principals and moderators. Actually, we can underestimate the capabilities of our students to do quality work. If the student members are convinced of the value of an activity's goal, and if they know that its success or failure is mainly their responsibility, I would not be too pessimistic about the end product. Frequently a sub-standard product is due to sub-standard training of the activity members.

Of course, a policy of student activity must be moderated by prudence. Moderators and principals must keep their eyes on certain considerations other than student formation, e.g. the good name of the school or financial status. Good taste or school policy will often demand direct intervention by the moderator. We will discuss later some necessary limitations on student initiative. But the ideal remains intact: as far as is feasible, the students should have an active part in the direction and operation of an activity.

### *III. Suggested Ways and Means*

To a moderator who accepts this self activity norm, I can tentatively suggest three practical rules. First, bestow some genuine authority and responsibility on the student officers of the activity. This may involve establishing, even exaggerating, channels of command. For instance, a moderator of dramatics can use his student stage manager as an executive officer. The stage manager can be allowed to sit in with the moderator and director in the planning of the stage set. While the stage crew is actually working, it is not desirable that the moderator be constantly on hand. This would inevitably dissolve the manager's responsibility. The damage would be compounded if the moderator appeared in old clothes, paint brush in hand. The more a moderator does, the less room there is for student activity. Rather the moderator should appear to check only when the stage manager reports the day's assignment is done. Thus

the work is not directed by the moderator, but directed by the students with an eye to the moderator's definitive verdict. Routine decisions should be made by the stage manager, subject always to the moderator's approval, especially concerning purchases. The manager should assign his men and delegate areas of responsibility to his more experienced hands. The moderator should ordinarily refrain from giving direct orders to the stage hands. The real authority of the student manager is better maintained if directions are given through him. Similarly, any questions or difficulties from the crew should be first directed to the manager. He will check with the moderator if necessary. On the night of the play, the moderator should try to keep away from backstage. Let the stage manager run the show. Where there is a good tradition this system is feasible and has actually been used with gratifying results. When the students know that they are responsible for success, they begin to think and act like professionals. And, incidentally, they tend to be conservative to an extreme. If this chain of command seems artificial and cumbersome, the results are very real in student formation.

A moderator will handle his student business manager in the same way, leaving to him routine decisions and assignments, the handling of money and the keeping of the account book. *Mutatis mutandis*, the same approach can be used to some extent in most activities. In such a system, the moderator's task is to watch and check everything, suggest better procedures and veto any unacceptable student decision. This will demand of him far more patience and ingenuity than if he did everything himself. Notice that this arrangement preserves both the moderator's full control and genuine responsibility in the students. If a moderator must reverse a student decision, let him have the student officers effect the change. When he can accept their decision, they rightly feel important, since it *is* their decision. A vote of confidence in the students' ability produces a really formative type of self activity.

A second practical rule is to keep all the members of the group busy. This, of course, is impossible if the staff is too large. A student finds little appeal in an activity which accepts all applicants and demands little work. A busy staff is an interested staff. More important, the formative value of an activity is in direct ratio to the exercise demanded of each member. The moderator must insist that the student officers incorporate all members into the operations by assigning to them some responsibility in proportion to the talent and training of each. And let it be understood that any member who does not carry his share of responsibility will be dropped for the good of the whole.

The third rule is to strive for continuity of student personnel, even from year to year. When a moderator accepts a student on his staff, let it

be explicitly understood that he is expected to continue, until graduation if necessary. The new member should feel that he has committed himself to the activity. Ordinarily, only underclassmen should be taken on as new members, if the nature of the activity so allows. In their junior year, some apt students can be selected to understudy the key senior members. In fact, these senior members can be responsible for grooming the juniors to take over the following year. A business-like approach is necessary in these appointments to avoid the appearance of favoritism, and all senior members should be given some significant responsibility. A certain drop-out percentage must be reckoned with in planning the size of the staff at the beginning of the year. But continuity can be encouraged if there is an increase of recognition and responsibility with each year of a student's participation.

A certain stability of personnel is most conducive to building up a tradition of student initiative and responsibility. Without such a tradition, the educational value of an activity is radically impaired. Here I would question the practice of limiting membership to seniors only. The privilege of seniors would be more meaningful if it meant that they were given increased responsibility because of their training in under-class days.

To some moderators, this emphasis on student responsibility will seem ideal but impractical. Publication moderators especially will insist that if they don't do the detailed work themselves, it will not get done in time for the deadline. This is probably true where traditionally the students do not feel they are responsible. But some moderators have actually succeeded in establishing this tradition on a workable basis. Concrete circumstances and demands of a time schedule may very well limit the theory, but over a period of time a viable tradition can be implanted, at least toward a partial realization of the ideal. Certainly in beginning a tradition of this sort, the moderator will have to teach by doing. Otherwise the failure of the product will destroy motivation. But his ideal should be so to train them that, in time, they can achieve reasonable success by their own efforts.

Certain restrictions on student initiative are necessary and inevitable. From their nature, some activities require a professional coach, e.g. varsity sports and musical organizations. Obviously student control here is limited. But by way of compensation, these activities always emphasize student activity. Actual performance in a basketball team or band is strictly a student affair. A varsity coach who injected himself into the starting line-up would not be well received. And even in such activities, the student officers can be given some administrative responsibilities, e.g. business or travel arrangements, publicity etc. More generally, the

moderator's good judgment will often impose other restrictions on student initiative. School policy, good taste or the reputation of the school may require him to override some student decisions. It would be unreasonable to expect thoroughly adult perspectives in adolescents. Nor will the average student resent guidance from the moderator, when he knows it is prompted by the moderator's interest in *their* success. As with every educational principle, the ideal of student self activity must be applied with adult discretion.

### *Conclusion*

Let me conclude where I began, by appealing to Jesuit principles. If I were pressed to capsulize our theory of education, I would offer this formula: ordered development of the total man by properly motivated self activity. I submit that each element of this norm should be applied to extracurricular activities. Our goal of *ordered* development demands that these activities should be subordinated to the regular curriculum. Our insistence on formation requires that the principal criterion of a good activity is not the quality of the product, but the quality of student training it gives. I suggest that the most effective and healthy motive for participating students must not be limited to their own self improvement (which is our motive), but should emphasize some worthy motive outside themselves. Most important of all, I insist that the educational value of these activities is seriously impaired, unless there is adequate room for real student initiative and responsibility. With such a framework, I am convinced that extracurricular activities can justify the honored, albeit secondary, place they hold in our high schools.

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### LONG LIVE BIBLIOGRAPHY!

"Pursue the ultimate source ruthlessly; ignore the commentaries of others until you have yourself identified and criticized the source; list and appraise the sources; expect no rewards and few readers; realize that satisfaction comes only when you have ascertained the truth, and extended, however slightly, the boundaries of human knowledge. Bibliography in this sense is akin to pure science. It is none of the business of the bibliographer or the pure scientist what use is made of his findings, and he ought not to be bothered with the trivial question 'Of what use is it?'" —Randolph G. Adams, *Three Americanists*, quoted in Storm & Peckham's *Invitation to Book Collecting*.



# Student Personnel Contacts and Increased Enrollment\*

J. CLEMENT RYAN, S.J.

This paper does not attempt to present the solution to the question of what happens to personal contacts with students in an increased enrollment in Jesuit schools, but it does attempt to project an analysis of some pertinent, but not exhaustive considerations that should not be ignored now if Jesuit schools will continue to dispense a type of education that is worthy of the name and education that is distinctively Jesuit education.

An increased enrollment does not necessarily mean that there has to be a lessening in the amount of personalized contact the individual student will receive in a Jesuit school. However, be that as it may, the here and the now seems to be a most acceptable and the much needed opportune time to make an honest, unbiased, and unprejudiced survey of the personnel relationships that do exist in the particular Jesuit school and to examine the underlying philosophy of education in personnel relationships that prevails in the school; and if it is necessary, organize or re-organize these facilities in accord with Jesuit philosophy in education. We could find somewhere in a forgotten Jesuit attic or in a mouldy vault, yellowed and frayed pages, records of school philosophies and operational plans that once worked well that could still be adapted to work efficiently today, but somehow all these might lack the crisp odor of newness.

We could well profit from the experiences involving the U.S. Army in a somewhat similar expansion situation before and at the beginning of World War II. At that time, the leadership of the Army was well aware that some definite expansion had to be planned and carried out. Plans and projects were devised, tested, and evaluated so that what was good in the training and operational procedures of the past could be retained, and obsolete materials and unsatisfactory methods and inefficient procedures could be withdrawn from circulation and marked off as junk. Some of this stuff though was carefully preserved and stored in supply depots.

With workable plans drawn up and the directives for their use available, all the leadership agreed that any actual expansion should be a marked, gradual process so that the new people could be integrated and indoctrin-

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nated with the principles, practices, customs and courtesies that had been carefully tested and found successful in producing the desired results in the training and developing of the soldiers for the mission that would be proposed for them. But what happened? The expansion was too rapid; pressures were applied to hurry up the process. Many of the higher officials panicked and became dissatisfied with the slow, methodical integration procedures and they developed a love for statistics and forced all to worship statistics as a god. Prepared schemes that had been successfully tested were often shelved by those who were brought in and put in charge of operations. These men would not try to understand or appreciate the underlying philosophy of the old army system of a complete training. Some who were more independent would not even try to profit from past experiences and even denied that there were any workable plans to be had that would meet the situation; they chose instead to use some make shift arrangements of their own. In some instances, methods and materials that had been carefully shelved and even marked for disposal were brought out and put into circulation. Some used whatever stuff that was at hand; others sent out rush orders for anything that some one said might work. Somehow through the muddle and the mess some semblance of training was given to the soldiers, but there was no one around with voice loud enough or sufficient influence that could be felt who would stem the awful waste and destruction that went on. Through it all, even the traditional structure of a good training and operational army program had been confused and hopelessly obfuscated with much junk. The harm that has been done will take years to repair. Some question the advisability that anyone should even attempt to repair the system, but sane men know that somehow we must seek to repair the system and get it working again or some day we will pay dearly in needless loss of men and materials.

Our schools of the Society to be successful must almost necessarily function in large measure on the pattern of a military organization. As Jesuits, we grew up with this system and it is the better type of organization that we know to accomplish what we have set out to do in education. We must, however, remember that while we teach and exercise students to develop themselves to live worthily in a democratic society we must not forget that we need this semblance of military discipline to bring about that end; we must teach students to be governed and govern themselves before they are to set out to govern others. As Jesuits we do know this type of organization better than we know any other type. The education that has been Jesuit for over 400 years has been based on authority and discipline; and wherever that discipline has been relaxed the quality of the training has been lessened.

There is a definite place in modern American education for the traditional Jesuit type and system of education. Furthermore, we have an obligation to preserve the fundamental identity and the characteristic individuality of each Jesuit school. I know that we can be hide-bound by tradition, but I know also that we can be swept away by novel and untried ideas as well. We also have an obligation to make each school excellent and perfect it as much as possible, but that excellence and perfection should come to each school in its own sphere and orbit. To expand outside of the present framework of each school now would not be a solid and a natural growth. Certainly if any school is to expand just to keep pace with another school it would have even less justification in expanding.

Each Jesuit school that now exists has grown out of some particular need in the community wherein it operates. Although that need may have been modified somewhat and changed with the times and the development of the community, that essential need that brought about the inception of the school is still there and a change or departure from that school's essential mission calls for some startling indication that will justify the change, because we should be committed to a policy of sound building that is in accord with the natural situation of place, time, and surrounding conditions. Any expansion should be natural to the educational needs of the community; we should not permit ourselves to be stampeded into something that is not indigenous. Being satisfied with the place it occupies in the scheme of education as a Jesuit school should be, it should seek to stabilize and perfect itself and reach a justifiable excellence in the particular class of school that it is. It should retain those things that are good in its tradition as long as they are fulfilling their purpose, but it must be willing to part with them when their need and usefulness is no longer present. Each school should preserve its own identity, and it should not be ashamed nor should it ever apologize for its distinctive features. It should capitalize on its unique excellence that contributes to the perfection of the type of education of the school. Each school has its own part to play in the scheme of things and these parts form the complete picture of Jesuit education in this country.

There are two distinct areas of this problem of Student personnel Relationships or work that should be considered: the first area deals with the Administration and the student as an individual and as a group; and the second area deals with the Teacher student relationships as an individual and the teacher as Moderator relationships to the individual and the individuals of that group.

We are considering this problem particularly from the point of view of the student in his established need for adjustment in our present system

of Jesuit education. Student Personnel relationships in the first area of this problem call for the following service functions:

1. Admission Services,—Recruiting, testing, selecting.
2. Orientation of New Students,—Service Organizations.
3. Counseling Services,—Vocational,—religious, academic.
4. Health Service,—Physical.
5. Financial Service and Student Employment,—Treasurer.
6. Supervision of Student Activities,—Religious, Physical, Social.
7. Supervision of Living Arrangements.
8. Student Conduct Regulation,—Discipline.
9. Record Maintenance,—Registrar, Publication, Supplies.
10. Job Placement Service,—Publicity, Alumni.

There must be some systematic procedure to help the student to learn how he is expected to live and work in the school, and what the common hazards are to which he is liable. The student must be made aware of his needs. He should be shown where these needs can be taken care of, how much they can be taken care of and the process of securing this help. The student then, is on his own to make use of these facilities to use or not to use them, but he does have to know that they do exist for him. Here is one area in which Jesuits do too much for the students, and we handicap our students so that they do not readily cope with similar situations which their experiences in school should have fitted them to handle.

These services should be centralized under the direction of one over-all official who will have assistants, but these assistants will be deputized to act in the name of the official in accord with the established policies of the school. To bring this procedure about there is a definite need that a set of standard operating procedures, and principles of policy should have been carefully worked out and written down so that all may know what is going on. We must be concerned with the student as an individual, but at the same time we must be interested in him as a member of a group and in his relations to his fellows of the school. This problem can begin to be solved by using a modern version of something that has long been in the Society, and that is a combination of a set of Regulations for Officials, and something of a custom book, and that out-of-date thing we knew as the "Novice Lectio." We might inject this observation that the student and the faculty member alike will test the limits of rules and requirements, seek special privileges, and at times openly rebel; however, students for the most part expect to find particularly in a Jesuit school a well organized and coordinated administration and we should be willing to set up a model standard for them.

One of the observations or complaints that is most often heard from



faculty members and students in a Jesuit school is that no one seems to know what is going on. I think that at times that the complaint is partly justified, because there seems to be no centralized area wherein all activities of the school are coordinated and their taking place made known to all even to those who may not be directly concerned. Some requirement should be established so that the faculty and the students would be forced in some way to frequent a central place to find out what is going on. A centralized bulletin board would be of help, if it were arranged and kept up to date by some one responsible and capable person, and the faculty were to see it at least once a day. The faculty member should then act as an agent to get the information to his students even on matters that did not directly concern them. A daily order of business and activities of the day could be distributed to faculty members and this information sheet should contain word of events that would be taking place the following day.

Here we should inject a serious warning that we must avoid the common temptation that seems to be in every organization and that is of multiplying paper work and keeping records. Here is one department that must be constantly kept under surveillance to see that all the paper work is truly significant, brief, to the point, and periodically destroyed.

We might as well face the fact that some of the traditional functions of the various officers of the school have changed and that a realignment of the duties and activities would be in order. The names may have to be changed, because the traditional names have lost their meaning and their retention often hampers the work of the person who occupies the position. Waste, lost motions, confusion, and duplication can be attributed to this situation. Some vested interests will have to be dislodged and given to positions where they should be more efficiently handled. Some works have been traditionally handled by some official because he could do a better job with it than some one else could do, but these duties should all be turned back into the particular department where they belong. Something else that must be taken care of to have an efficient school is adequate office facilities that are centralized and have a means of communication between the different offices and with the central office. Some one who can see and understand the whole picture should analyse the whole service function as it will work best in each particular school.

The second section of this study on personal contacts with the students takes up the problem of the Teacher student relationships and the Teacher as Moderator relationships with members of his particular group or organization. This is the critical area that is apt to be the most affected in an increased enrollment. The Jesuit school must still be considered as a community where students are not only studying but where they are

also living. We, as Jesuits, are by reputation at least committed to train and develop the personality and exercise the talents of the students who come to Jesuit schools. The association with Jesuits and lay teachers of our school who are imbued with Jesuit ideals, principles, and practices is one of the principal features that students who come want to find in a Jesuit school, and here is the sphere of activity in which most Jesuit schools do their best work. That there may be an united effort is an added reason why all teachers and others connected with the school need to be orientated to the particular program and the philosophy of the school, that they should understand the meaning of its custom book and student operational processes as well as the code of etiquette of the school. We are all aware that powerful influences are brought into play between the student and the teacher quite apart from the subject matter of any particular course or student activity; those influences often lead to the most important effects on the student in his choice of a career as well as in the whole manner of his life, and that fact is another reason for the existence of Jesuit education. That this feature of personal contact or informal education is a characteristic of Jesuit schools all admit and most will agree that it should not be lost.

The individual teacher as a teacher or moderator can do only so much in this non-directed personnel contact work. Most teachers in Jesuit schools do a great deal more of it than they receive credit for doing; some are surprised and even shocked when they begin to realize that what they say, read, wear, enjoy, and every aspect of their manner and behavior exerts an influence on their students.

We should recognize the fact that some teachers have the gift or more probably have acquired the ability to draw students to them and that students will seek them out; these teachers seem to have established some sort of need in the make up of the student. This need, however, can be created to some extent by any Jesuit teacher who would be willing to take the time and expend the energy that it takes to be with the student. That more of this kind of education could be made available in Jesuit schools all seem ready to admit, but we must remember that this kind of work is very hard to evaluate, is difficult to keep track of, and it is almost impossible to account for the time that one spends at it.

No one seems to want to give an account of what he does in these matters, but something might be done to enlist the cooperation of all in a school in organizing this work. It seems best that those who do more of it should have the say in the formation of directional plans and the methods of accounting. If some of the works that are done in this area could be better coordinated under the personnel services greater possibi-

ties and awareness of them for others could be shown, and duplication of time and energies could be avoided. There are so many intangibles in this work that only a most general accounting could be used but even this should be attempted.

Here is also the area in which a soul searching examination should be instituted to see what we are really doing in these matters. So often the complaint of the Jesuit trained student is that the teacher did too much for him, or that the Jesuit did little or nothing for him. In extra curricular activities the Jesuit should lead, direct, encourage, evaluate, praise and reward but the student should do the work even if the end result would be inferior to the product that the Jesuit would produce.

All these remarks simmer down to this that some one needs to do a selling job in each school that the personnel features of traditional Jesuit education are necessary, worth while, and should be made more operationally perfect. Increased enrollment will come to our schools, and there is little that we can do to stop it, but we can try to save the identity of Jesuit education. The cry is already heard that we as Jesuits have too much work to do now, that we are trying to do too many things instead of doing the particular work that we are best equipped to do well.

We need an inventory to see that essential student needs are provided for in definite organizations under sound and efficient supervision; that the school philosophy is spelled out in a custom book, that procedures are mapped out, that efficient communication is established and that the increase is systematically integrated. All this is premised on the supposition that we do want to keep Jesuit education traditionally distinctive, that we desire to make each school more excellent in its own work, and that we want to explore the possibilities of making the present administration of student relationships more excellent and efficient while we probe the possibility of expansion to a point where we can keep what we have that is good, and that we will use the present facilities to the ultimate of their capabilities for the end proposed to us in Jesuit education.

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“The book [Newman’s *Idea of a University*] is so wise—so eminently wise—as to deserve being bound by a young student of literature for a frontlet on his brow and as a talisman on his writing wrist.”—Sir A. Quiller-Couch, *On the Art of Writing*

# Multiplication of Curricula\*

LAURENCE V. BRITT, S.J.

## *Introduction*

Some years ago a prominent Jesuit defined nirvana as "the passing of conventions where most people say all they know in ten minutes and then commence talking about curriculum." Nirvana, our program reveals, is still to come! The topic assigned, "Multiplication of Curricula," reveals the fact that curriculum discussion and study are still important. A college would be meaningless without a curriculum, but it would be even more so if its curriculum were meaningless. Our topic is particularly timely today, when many distinguished educators are suggesting that expanding enrollments may necessitate substantial reduction of curricular variety, to avoid unnecessary dissipation of limited faculty resources and insure preservation of quality instruction. There would appear to be some relationship between curricular variety and enrollment, but past experience might indicate that it has been more casual than causal.

Curriculum will be a problem for anyone charged with responsibility for formal education at any level, but today we shall be limiting our discussion to the curriculum of our liberal arts colleges. It is quite likely, however, that our basic principles and possibly many of our conclusions, too, may be applicable to all of our colleges. After briefly reviewing some of the basic principles pertinent to any discussion of curriculum, we will then consider current Jesuit curricular practice in our liberal arts colleges and attempt to derive some important conclusions that may be helpful to us in the administration of our respective colleges.

## *I. Some Basic Principles of Curriculum Organization*

Curriculum, in its most general sense, refers to the course over which a student moves as he attempts to complete his formal education, even though all too often the course may resemble a steeple chase more than the traditional race course. More specifically, the curriculum means the sum-total of carefully planned and organized learning experiences (including lectures, laboratory work, independent study, discussion, field

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trips, etc.), aimed at stimulating the self-activity of the learner, which an institution presents to qualified students as effective means for the attainment of certain worthwhile general and specific objectives, all of which, theoretically, could be described in terms of human development. "Learning experience," it should be noted, is not the same as course content. It refers rather to the interaction between the learner and the environment to which he reacts. The learning takes place only through the active behavior of the student. Ideally, the sum-total of learning experiences provided at a certain educational level will be organized in such wise as to insure necessary continuity, proper sequence, and maximum integration. Organization, naturally, requires some clearly defined principles of organization, on the basis of which the various curricular threads may be woven together. Most important of all, however, it must be remembered that the curriculum, however highly organized it may be, is only a *means* to an end, to be used to the extent that it proves effective for the attainment of the objectives proposed. It is not something to be sought, preserved, or defended as an end in itself, even though educators seem to have a penchant for confounding means with ends!

Assuming that we know quite clearly what we hope to achieve through liberal education—a big assumption, indeed—how do we go about determining a curriculum? This is simple in theory, difficult in practice. Our philosophy of education will tell us much about the nature of the learner and the nature of truth, and will, therefore, provide the major basis for concise determination of objectives; but no philosophy of education will permit simple deduction of either a specific curricular plan or specific segments of the curriculum. It is true that the nature of man, the nature of truth, and the manner in which human culture has developed will together delimit the general curricular field and indicate fairly clearly the major general areas that must be included in any truly liberalizing course of study, but the precise elements of the curriculum and the detailed organization will always have to be determined on a rather pragmatic basis. In itself, therefore, the curriculum is not immediately and directly a philosophical matter, but a practical problem, a matter of prudently fitting means to end, with proper account taken of all pertinent factors: e.g. the educand, the nature of liberal education, the psychology of learning, the resources of particular institutions, etc. Attention will have to be given, not merely to *what* is to be learned, but also to *how* such learning is to be promoted most effectively.

If we are properly mindful of the fact of individual differences, it will be quite obvious that no one curriculum is ever likely to be established as the only or most effective means for all students to achieve a liberal

education. The goals may be common, but it does not follow at all that identical means must be employed by all for their attainment. Theoretically, therefore, it is not only possible, but even to be expected, that there will be liberal arts curricula, rather than *a* curriculum. In itself, multiplication of curricula may be an indication of strength rather than a sign of weakness; but it must be multiplication based on principle.

At this point it may not be out of place to emphasize the fact that curricular variety in the liberal arts should not *ipso facto* lead one to the conclusion that there must be concomitant multiplication of baccalaureate degrees. The two are not the same. By definition an academic degree is simply a rank or recognition given by a college or university to a student who has successfully completed a prescribed course of study. The curriculum is the means provided for the student to achieve the end proposed. The degree is simply a tag, certifying that the objective has been achieved. This, of course, does not justify our concluding that degree designations are unimportant, because they have come to acquire a fairly precise meaning in American education. Both the A.B. and B.S. degrees have come traditionally to be the badges of liberal education, with the latter connoting special emphasis in the areas of natural science and mathematics. Under both, however, there is ample room for a considerable amount of curricular variation.

If we inquire how many different baccalaureate degrees a liberal arts college should grant, one might well counter by asking how many different kinds of liberal education are possible. Theoretically, if the goal is liberal education and the degree granted signifies simply achievement of the goal, one degree should suffice. As Father Mallon stated the case at the Deans' Institute in Denver, in 1948,

The trend over the past quarter of a century has been definitely in the direction of using one degree to indicate a liberal arts education. This has been done because the unqualified degree from a liberal arts college has been assumed to indicate accomplishment of a liberal education, regardless of what the student's major may have been. There is sound thinking behind this trend. Specific degrees for different programs lead to the impression that the college conceives of itself making specialists out of its graduates.<sup>1</sup>

Father Mallon continued, of course, to note that, because of its connotation of greater emphasis in natural science and mathematics, the B.S. degree had come to join the A.B. as the badge of liberal education. He also noted that our Jesuit policy of retaining the A.B. as a distinctive

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<sup>1</sup> Mallon, S.J., Wilfred M. "VII. College Degrees," *Proceedings of the Institute for Jesuit Deans*, Jesuit Educational Association. Denver: Regis College, 1948. P. 166.

degree, to indicate a classical education, compelled us to accept the anomaly of using the second meaningful degree, the B.S., to indicate non-classical liberal programs of study, even though they might lack the customary concentration in science and mathematics. He was quite emphatic in indicating that the A.B. and B.S. degrees, both meaningful degrees in American higher education, should suffice for a college of liberal arts. And he took a rather dim view of any further multiplication of degrees, as well as of qualified degrees (e.g. B.S. in Med. Tech.) that tended to confuse the liberal arts college with vocational or professional schools.

Remembering, therefore, that curricular variation is not identical with variation in degrees offered, and accepting the fact that the A.B. and B.S. appear to be the only baccalaureate degrees offered by the better liberal arts colleges in the U. S., it would seem to be clear that there is little basis for multiplication of degree programs or titles. In theory, therefore, it would be advantageous for us to resolve the Latin problem in our A.B. program and then grant just two degrees, the A.B. and B.S., restricting the latter to programs involving some degree of concentration in natural science and mathematics. Even this amount of multiplication of degrees would appear to violate the basic principle that a single degree should suffice to designate completion of a liberal education, but there is historical justification for both the A.B. and B.S. in practice. I have not been able to find similar justification for any further differentiation of degrees. It might be profitable for us to discuss what constitutes curricular variety, in liberal arts, sufficiently great to justify our reflecting the difference in the degree designation. There is obvious danger, of course, that, as curricular differences approach the point of being truly substantial, we may find serious difficulty in defending one or other program as truly appropriate to a college of liberal arts.

## *2. Curricular Multiplication In Jesuit Colleges Today*

We turn now to the question of curricular variety in Jesuit colleges today. Curricular variety, of course, may refer either to multiplication of degree programs or to variation within a given degree program. In theory, since college catalogs purport to describe the curricular offered by specific institutions, it should be a relatively simple matter to discover what our current Jesuit practice is. Unfortunately, the task is complicated somewhat by the fact that catalogs are notoriously incomplete and inconsistent. Sections dealing explicitly with "Degree Programs Offered" may be contradicted by sections outlining "Detailed Requirements for

Degrees"; and both may fail to agree with the list of specific degrees conferred at commencement! Some, for example, state very clearly that only two degrees are offered: the A.B. and B.S.; but it subsequently becomes clear that a distinction is made between the B.S. in natural science or mathematics and the B.S. in social science (or almost anything else that fails to include Latin). In many cases, where an unqualified B.S. is awarded to students majoring in mathematics or any of the sciences, one might logically conclude that the difference in major fields is insufficient for differentiation of degrees; but, unfortunately, it then turns out that the same college makes a distinction on the basis of the major field, awarding the B.S. in Social Science to one group of students and the B.S. in Education to another.

Allowing for the notorious unreliability of catalogs, then, it may be of interest to consider briefly several summary reports on curriculum multiplication in our liberal arts colleges. The summaries were derived from three independent studies: (1) the study completed by Father Mallon in preparation for the 1948 Jesuit Deans' Institute in Denver;<sup>2</sup> (2) a doctoral dissertation on baccalaureate degrees in Jesuit colleges,<sup>3</sup> and (3) a recent inspection of current Jesuit college catalogs.

Father Mallon found the twenty-seven Jesuit colleges offering a total of twelve different baccalaureate degrees, ranging from the common A.B. and B.S. degrees to the somewhat less common Ph.B., B.S. in Secretarial Science, and B.S. in Music. Eight of the liberal arts colleges also offered programs of study leading to a degree in business administration. The number of degrees granted by specific institutions ranged from two to six, with twenty-one of the colleges offering only two or three distinct degrees.

The doctoral study referred to revealed the fact that the number of apparently different degree programs offered in Jesuit colleges depended on the section of the catalog studied. Catalogs of the twenty-four colleges in the study were reviewed for the years 1939 and 1948. Analysis of the catalog sections concerned with "Detailed Degree Requirements" seemed to indicate that no fewer than forty-nine "different" degree programs were offered! It was obvious, of course, that "degree difference" was not infrequently confused with differences in just the major fields. However, it was also discovered that the catalog sections concerned with the formal description of "Degree Programs Offered" were only slightly less confusing, since some forty-three "different" programs were found described!

<sup>2</sup> Mallon, *op. cit.*

<sup>3</sup> Britt, S.J., L. V. "Liberal Arts Degrees in Jesuit Colleges of Arts and Sciences in the United States," doctoral dissertation, University of Minnesota. December, 1954.



Eventually, after all of the merely major-field differences had been excluded, it was found that the colleges were in reality offering a minimum of ten distinct degree programs.

When the specific objectives of the different degree programs were considered, the conclusion was that they failed to provide any real basis for degree differentiation. Analysis of the actual degree requirements and the programs of graduates, randomly selected, showed no fewer than seventy "different" courses required or taken. Nominal distinctions, of course, accounted for many of the differences, but only three of the seventy listed required courses, English, philosophy, and religion, were found required in all degree programs. Other common subjects, such as history, foreign language, science or mathematics, social science, and speech, were found with sufficient frequency to be considered typical. The conclusion, however, that resulted from this analysis may be of interest:

... there would appear to be only slight basis in academic requirements for differentiation of the various degrees that have been considered. It is true that the Bachelor of Arts program in the twenty-four Jesuit colleges is distinguished by its substantial Latin requirement, but one may wonder whether a single subject should be the basis for degree distinction. With respect to the other subject requirements considered, including all those commonly required in the various degree programs (e.g. English, philosophy, religion, history, foreign language, science and mathematics, speech, and social science), it does not appear that any one or even all together can be made to provide a truly solid basis for degree differentiation, except possibly with respect to the science requirement in the B.S. I curriculum.<sup>4</sup>

The same conclusion was derived after a comprehensive analysis of the transcripts of randomly selected graduates for both 1939 and 1948.

With regard to current practice, it may be noted that a recent review of the current bulletins of our Jesuit liberal arts colleges provided little or no basis for assuming that curricular multiplication had changed generally since the above studies were made. Some colleges, it is true, had reduced the number of degree programs offered; but these had been offset by others that had further differentiated degree programs. Some twenty-two different degree designations were encountered, ranging from the familiar A.B. and B.S. to the relatively new B.S. in Medical Technology and the Bachelor of Music, with three institutions continuing to offer the now rather rare Ph.B. and at least seven offering programs leading to degrees in business administration. The number of apparently

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<sup>4</sup> Britt, *op. cit.* P. 327.

different degrees offered by individual institutions ranged from two to as many as eight, with some twenty-one of the colleges offering from two to four degrees. There appeared to be only five that clearly limited themselves to just the A.B. and B.S. No detailed study was made of current subject requirements, but there appeared to be no obvious reduction in variety.

### *3. Some Possible Conclusions*

There is little doubt but that both degree programs and degrees used to designate specific programs have been multiplied beyond all due measure, with differentiation apparently made on the basis of subject-requirement differences rather than differentiation of purpose. It would seem that possibly more emphasis has been given to curricular segments than to curricular goals. And there has been too little regard for the accepted American practice, in better institutions, of symbolizing the completion of liberal education by awarding either the A.B. or B.S.

The variety of programs encountered, with new major emphasis on such things as medical technology, music and music education, secretarial science, home economics, specific natural science, etc., leads one to suspect that in some cases, at least, our liberal arts college have been led to serve far more (and possibly less) than their original purpose.

Although I have not attempted to trace the historical origin of degree or specific curriculum variation, other studies have indicated, I believe, that multiplication has come, not with expanding enrollments, but during years when institutions were striving to attract more students. The prospect of expanding enrollment in the future may lead our colleges to confine themselves to pursuit of their original purpose. Rather than run the risk of becoming jacks of all trades and masters of none, we might examine our academic conscience, asking ourselves the following questions:

1. Do we recognize in practice that the curriculum is a means to an end, to be determined strictly on the basis of its effectiveness in promoting attainment of the end?
2. Do we realize that in a liberal arts college curriculum differences need not automatically necessitate differences in academic degrees? And do we accept the fact that in American higher education today only the A.B. and B.S. are meaningful for liberal education?
3. In stating the objectives that will be basic in any curriculum study, do we tend to concentrate on what our instructors are to do (specific courses and course topics), or do we emphasize the changes to be brought about in the students? If the latter, are the statements suf-

ficiently specific to serve as a practical basis for both curriculum organization and evaluation?

4. Do we wish to restrict our liberal arts colleges to liberal education? If so, are we clear about the degree of specialization or semi-professional education that can be tolerated without sacrificing the essential character of the institution and the degree granted?
5. Are we really aware of the fact that integration is not something achieved more or less automatically, but depends on curricular organization, with careful consideration given to continuity, sequence, and integration?
6. Are we ready to strive for solution of the Latin problem in our A.B. program, to avoid the anomaly of granting a B.S. degree that is lacking the normal concentration in science or mathematics?
7. Finally, in the administration of the curriculum, are we ready and willing to experiment, to evaluate, to test every element in the curriculum, in a serious effort to improve the quality of our educational program? If not, is it really because we already have sufficient evidence to establish validity, or rather because in practice we confuse means with ends?

We cannot hope to solve all of our curriculum problems today, but discussion may alert us to the various facets of the problem, and provide necessary motivation for continuing study. One thing is certain; curriculum is our most important problem and it will not solve itself.

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“That education (of adults) should be liberal, and it should be interminable. We are led to this conclusion by looking at the nature of man and the nature of knowledge. The man who stops learning is as good as dead, and the conditions of modern industrial society, which put little strain on a man’s intelligence in the conduct of his work, place a premium on the premature cessation of thought. It is impossible to say that a man can develop his highest powers once and for all in youth. He has to keep on using them. I am not suggesting that he must go to school all his life. But I am proposing that he should learn all his life; and I think he will find that informal association with others who have the same purpose in view will help him and them to achieve it.”—Robert M. Hutchins in *The Conflict in Education*

# Engineering and Electronic Physics at Saint Joseph's College\*

JOHN S. O'CONOR, S.J.

In 1951 St. Joseph's College inaugurated a cooperative program in Electronic Physics.

Although the College was founded as a liberal Arts Institution and still is such, in this course it trains students to think as engineers, to work as engineers, and to produce as engineers. It also has as the basis of its bachelor of science degree that most fundamental of all the sciences, in the past graphically and aptly called "Natural Philosophy," and today known as Physics.

"Earn while you learn" is the keynote of the new Electronic Physics course whose enrollment has skyrocketed from a mere handful of physics majors to the 2d largest group on the campus, and the 5th largest undergraduate physics group in the country.

How did all this come about? It was sparked by a suggestion made by Mr. Frank Folsom, of the Radio Corporation of America, to Father O'Connor, head of the Physics Department at St. Joseph's.

Mr. Folsom, then executive Vice-President and later President of RCA, was keenly aware of the continuing shortage of scientists trained in this field. He realized that many high school graduates interested in engineering could not afford the expense of four years at College and so to help increase the source of potential engineers he proposed the introduction of the cooperative plan which would take care of the students' needs financially and at the same time prepare them in the best possible way for a successful career in government or industry as electronic scientists. Suggestions for changes of another type were beginning to appear on the educational horizon. They have been pointing in a direction which can be summed up by a quotation from a recent article by W. L. Everitt on the impact of modern physics on engineering education, in the publication "Physics To-day."

Dean Everitt emphasizes the need for further understanding on the part of engineers, concerning the revolution in both scientific thought and procedure that has taken place since the coming of the nuclear

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\* Presented at the Meeting of College and University Delegates, Annual Meeting of the Jesuit Educational Association, St. Joseph's College, April 7, 1958.

epoch. As he states the challenge it "is simply whether engineering education will recognize the existence of modern physics research, will survey its extent and will take swift actions to meet the requirements for comprehension and absorption of these new engineering tools." It would seem that the complement to this challenge is another to the physicist, which would demand that he become familiar with the techniques which are essential to the development and application of his recently discovered sources of energy. Only in this way will the two groups be able to talk a common language and work on common ground, a requirement that is vitally necessary for the rapid and efficient use of our newly found resources.

The program adopted in 1951 was designed to implement these important aspects of 'Engineering Physics.' After further series of conferences with other executives and training directors of various electronic industries in the Philadelphia area it was determined to concentrate on the development of a course leading to a B.S. in Electronic Physics. While none of the individual elements in the plan can claim complete originality, it is felt that the combination includes many of the best features of several 'work-study' curricula, and in that respect is somewhat unique. It is frankly an attempt to combine the rigorous, fundamentals and theoretical training of the physicist with the practical experience and know-how of the engineer.

*Why has St. Joseph's selected the degree in Physics as the preferred one for cooperative students?* Because Physics is the most basic of all natural sciences.

Many years ago Alexander Smith, Professor of Chemistry at Columbia University said: "The other sciences would be deaf, dumb and blind without the aid of Physics." That is true today, of the engineer as well as the pure scientist. It is interesting to note here in passing, that more than half the engineers in the National Academy of Science were trained as Physicists, and that such companies as General Electric and the Bell Laboratories stress fundamental Physics and Mathematics as the most important courses in their specialized training programs, given to college graduates.

One again may ask: Why emphasize *Electronic Physics*? For many reasons. Electronics is one of the fastest growing activities in the world to-day. When the first bulletin announcing the course was published electronics was a four billion dollar industry. Today it is a ten billion dollar one. It will be even greater as this goes to press.

The country is going through what may be termed an electronic evolution.



In the cement kilns of Pennsylvania, in the copper mines of Montana, in the transportation systems of New York, in the cotton mills of Georgia, and in the oil refineries, tanneries and power plants throughout the country, electronic control and processing is taking over by automation. The computer business has mushroomed beyond all expectations, and the reason for the rapid advance is primarily electronic.

A glance at the want ads in the newspapers is sufficient to indicate the shortage of trained men in this field.

The cooperative program at St. Joseph's is similar to that offered in a number of other engineering Colleges with one or two exceptions.

Degree requirements are completed in four calendar years;—140 or more credits may be obtained in this time and the graduate is acceptable by academic, governmental and industrial standards as a physicist, an electronic scientist or a mathematician.

During freshman and sophomore years there are no industrial training periods. In the opinion of most engineering supervisors and industrial research directors consulted, such periods during or immediately after the freshman year are of little or no value either to the student or to the industry where he works. At this stage of his education the "coop" is not capable of more responsibility than that usually given to an errand boy or unskilled helper. As a result his assignments produce either boredom or discouragement and his reactions make his directors skeptical concerning the entire program. On the other hand after the sophomore year, basic physics and chemistry, as well as differential and integral calculus, have been completed and the prospective worker goes to his job with a degree of maturity and confidence gained both from his lecture and laboratory experiences.

After interviews with representatives of two or more of the twelve establishments cooperating with the college, selections are made and the class is divided into two groups. Group 'A' begins the first term of the Junior year early in June and group 'B' reports to work at the same time in a position equivalent to a technical or research assistant, at the industry of his choice. In September the two groups change places—'A' going into industrial practice and 'B' returning to full time academic pursuits. In February the groups again exchange places, as they do at the end of each succeeding term. Thus the work and class periods of the 'coops' coincide with the regular fall, spring and summer semesters of the entire college. In June, at the end of their senior year, both groups return to the college for a final and intensive six weeks summer school, thus completing their undergraduate requirements and becoming available for job placement by the end of July in their fourth year.

A feature that has contributed much to the success of this four year Coop plan is the introduction of an 'on campus' evening course for the students working in industry. As each student spends three semesters at work and takes at least one 3 credit course each time, a minimum of 9 credits can be secured in this way. It has been found that continuing contact with the college during work periods helps to keep the student in the desirable academic atmosphere, encourages him to use the library and even to continue his extracurricular activities which take place after working hours. He thus feels himself to be, and actually is, a bona fide and active member of the student body and not just an individual taking time off from school to work.

*How may we appraise the success of the Co-op venture?*

During all the years of its operation, every student seeking permanent employment after graduation has been placed in industry. Many have chosen to continue on for graduate degrees in Mathematics and Physics as well as Engineering. In 1951, before the cooperative phase was introduced there were approximately 25 students majoring in Physics. In the fall of 1956 there were 150 enrolled as Physics majors, all but about 13% in the cooperative option. In the last five years 22 graduates have been accepted either as full time graduate students or as graduate assistants at thirteen different Universities. (Two are majoring in Mathematics, one having received his Master's Degree, the other having passed his preliminaries for the Doctor's Degree.) The remaining twenty are all Physics majors. The institutions they are or were attending are: Catholic University, Delaware, Detroit, Johns Hopkins, Maryland, Massachusetts Institute of Technology, Notre Dame, Pennsylvania, Penn-State, Purdue, Rochester and Virginia. Since the new course was initiated graduating seniors have won three National Science Foundation Fellowships in Physics and received 8 honorable mentions in Physics as well as one in Mathematics—four of the above all in 1956.

The graduating class of 1957, consisting of 24 physics majors, received direct offers of 26 fellowships, 2 work-study plans, and six other unsolicited offers as well as 85 job offers.

From this record it is evident that the training given does not neglect topics such as atomic and nuclear Physics as well as higher mathematics not usually required in an engineering curriculum.

*The most rewarding result of the course is the reaction of the students.*

Not only are they enthusiastic about the practical experience gained by working with graduate engineers, but they receive a new impetus and orientation with regard to subsequent work in the class room. They come back to college bursting with new ideas and ambitions. The monthly

seminar in Physics is usually given by one of the Co-ops on his work during his last industrial assignment. Among the topics covered during the past year were: Colored television, Computer memory tubes, transistor operation and many others of a more specialized nature.

In addition to the benefits of regularly scheduled college laboratory periods and the experience gained in industry, the student of Electronic Physics has an opportunity at St. Joseph's to become a member of a research team working on the properties of "semi-conducting" materials.

"Semi-conductors" are used in the making of transistors, those fascinating finger-nail size elements that give promise of replacing vacuum tubes in many electronic circuits. Under the direction of one of the College Staff, samples of such materials are prepared for investigation and study. This involves high temperature work both in the making and testing of the sample. Thus many techniques are learned and put in practice while the student cooperates in advancing our knowledge of "solid state" Physics.

*What does the future hold for cooperative education at St. Joseph's College?*

According to the latest survey (1957) there are only 46 accredited colleges offering programs of this type. Each year additional Companies request agreements which will combine the educational facilities of the college with the 'on the job' training of their own establishments.

Recently the armed services are supplementing this program for their civilian employees by paying one half the students' tuition in addition to the regular salary accompanying industrial work periods.

Because of the benefits accruing to both students and employers a similar plan on the part of industry is anticipated.

# The Recruitment and Retention of Lay Faculty\*

JAMES A. KING, S.J.

Assembled here this morning is a group of college administrators who collectively operate 28 colleges for 108,000 students. On the supposition that an instructor-pupil ratio of 1 to 15 is maintained, you employ and supervise 7,200 instructors of whom about 5,500 or approximately 75% are laymen. The recruitment and the retention of so impressive a number of professional educators represents considerable administrative achievement. In planning to talk to you about the recruitment and retention of lay instructors, I was fearful that many of you would already know the answers, and that I, for this reason, would be in danger of simply stressing the obvious. I consulted the most recent Catholic Directory and found—to cite only a few items—that Fordham University employs 408 lay instructors and 168 priests; St. Louis University employs 994 lay instructors and 152 Religious; Marquette University employs 946 instructors of whom 71 are priests; Loyola University of New Orleans employs 194 lay instructors and 42 priests; the University of San Francisco employs 117 lay instructors and 33 priests. I don't want to bore you with more items; but what I read convinced me that in the recruitment of professional educators you were indeed experts. By comparison we at Santa Clara have only limited experience—our President has reason to feel grateful—especially at budget time—that he is responsible for just 54 lay instructors and 46 priests.

These figures, however, bring home impressively the realization that our colleges have recruited and are retaining a small army of lay instructors and that our great national educational operation could not be carried on without the substantial assistance of lay personnel. It is no longer a fact—and it hasn't been for some time—that the good Fathers—prepared and unprepared—can run their educational establishments by themselves.

Our topic for this morning seems to imply that the problem of recruiting and retaining lay instructors is a problem arising from expansion of our Jesuit colleges and our universities, and this could very well be. I

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\* Presented at the Meeting of College and University Delegates, Annual Meeting of the Jesuit Educational Association, St. Joseph's College, April 7, 1958.



should like to agree, and I am sure you will too, with Dr. Daniel C. Sullivan who read a very complete paper on this topic at last year's National Catholic meeting in Milwaukee when he said "whether a college limits enrollments, or expands its facilities, the fact remains that competition for the existing and comparatively meager supply of teachers will be entered into by both groups, those who will curtail expansion but need replacements, and those who will expand existing facilities and require new teachers." Each of you probably has evidence of how this is happening in your particular area. I sat on a panel at Sacramento a little over a year ago which discussed "Recruitment of Faculty Members in a Period of Rapidly Increasing Enrollments," where one panel member, the President of the City College in Long Beach, California, stated that he was leaving shortly for a tour through the country to sign on 180 additional faculty members for the following year. And the Dean of Instruction of San Jose State College, our neighbor, stated that he had just signed 139 additional faculty members. Surrounded as we are by this vast expansion in tax-supported education, we must face faculty recruitment problems whether we attempt to maintain our current services or expand them.

Father Paul Beichner, Dean of the Graduate School at Notre Dame University, speaking to the Southern Regional Unit last December on the problems of faculty recruitment considered a) the recruiting of faculty for current needs and b) a long range recruitment program. This rather obvious division might serve our purposes.

The search for new faculty, he suggests, is not a one man operation. We must begin by working with the members of the department in which the vacancy will occur or has occurred. Each department should build up a file for applications. There are dedicated Catholic men in secular colleges and in industry who wish to teach in our colleges. These frequently write directly to the department of their special interest. Such letters should receive a prompt and courteous reply and should be kept on file for reference in time of need.

The Dean of the college, too, must maintain an extensive file for prospective faculty members. I have noticed that a great many applicants for a faculty appointment to our small faculty write directly to the President. I suppose they expect that he will refer their letters to the person or department concerned. A great many such letters of applicants, I know, are referred to me. I answer them, and if they are from qualified people, I file them for future reference by their fields of competence.

The departmental chairmen of our Catholic graduate schools can be a source of assistance. Usually they are in closer contact with individual



degree candidates of the graduate school than the Dean. In financially hard pressed Catholic graduate schools, where secretarial aid is perhaps scarce one may wait long or in vain for information or assistance. Recently, of course, we have had the mimeographed list of prospective graduates of Catholic graduate schools distributed by the National Catholic Educational Association.

The departmental chairmen of local secular graduate schools are usually most courteous and most anxious to be of assistance. In writing to them I never hesitate to state that I want a Catholic instructor if this would be a necessary qualification for the appointment. Living as we do at Santa Clara in the shadow of two distinguished graduate schools—that of Stanford University and that of the University of California—our faculty could conceivably be dominated by their graduates. A recent survey revealed the pleasant fact that St. Louis University with seven Doctors on our faculty equals in influence either Stanford or California. I say this is a pleasant fact, because I am sure you will agree that as our need for lay faculty increases we will appreciate more and more the importance of our Catholic graduate schools.

Other methods of making contacts are a) the use of the bulletin board exhibited expressly to advertise faculty needs at the national meetings of the various departmental groups—the historians, the sociologists, the physicists, etc; b) a paid advertisement in a professional magazine; c) an advertisement in the local newspaper. We thought this might be undignified until we noted that it was done by the University of California. This type of contact reaches people in secular colleges who would rather teach in a Catholic college or people in industry who wish to return to teaching. It will reach retired Service personnel—sometimes former professors in Service colleges, or retired professors who would enjoy part-time employment. d) the recently published list of Emeriti professors who are interested in returning to teach. We have used these means to establish contact with prospective faculty and have found them helpful.

While contact with potential instructors is extremely important, it is only the beginning of negotiation. Selection is the important action. As our holy father, Pope Pius XII, has said in the encyclical on "Christian Education:" "Good schools are the result not so much of good methods as of good teachers, teachers who are thoroughly prepared and well grounded in the matter they have to teach." Our Jesuit colleges must find lay instructors who, in addition to being masters in their fields, possess the other qualities of mind and heart necessary to assist in educating Catholic men. Among the credentials required from all applicants should

be a carefully planned application form and the confidential dossier of information supplied by the placement office of the applicant's University. When this information has been perused by the Dean and by the other members of the committee on faculty appointments, which should include the department members with whom and under whom the new instructors will work, it will be evident whether or not further information should be sought. When the applicant seems suitable for the appointment, arrangements need to be made for a personal interview. Here it seems to me our nationwide association can be useful. Over the years Jesuits in other colleges have been very helpful to me by interviewing prospective instructors for whom a trip to Santa Clara would have been too burdensome. A candidate who satisfies his interviewers by his personality and his attitudes, and who satisfies the department head under whom he will work must be attracted to the campus. Salary is important, and our Jesuit college presidents are doing a splendid job of gradually making our salaries competitive. But in many cases applicants for an appointment to our faculty consider professional opportunities and certain fringe benefits of equal or even greater importance. I am sure that you could each cite examples of men who have given up more lucrative jobs in other colleges and in industry to join your faculty.

The hours of teaching, the teaching load, the opportunity to teach in their special field, the time and place for research, their faculty rank, their security under changing administrations, an assignment to represent the University or their department at conferences and conventions, housing furnished by the University, insurance opportunities, an advantageous retirement plan, educational privileges for their children, Sabbatical leave for research, these are considerations that will sometimes attract, when salary alone would not. These are also the considerations that will often retain good men on the faculty when offers come in from competitive agencies. It is not ordinarily difficult to hold a professor who, after careful consideration, has chosen your college and who has learned to be a part of it — if in serving the college he has a tolerable living for his family and the normal opportunities for academic fulfillment. For some this is achieved through teaching, for others through research, and for still others through a combination of the two.

While the experts have been warning us of the impending scarcity of college teachers for some years, evidence of it is pressing thus far in only certain fields. In his annual study for the National Educational Association, Dr. Ray C. Maul reports that 70% of the colleges questioned indicated trouble in recruiting physical scientists, 30% in recruiting

mathematicians, 17% in recruiting Doctors in Education, 16% in recruiting business educators and 15% in recruiting Engineers. The problem will grow, however, as student enrollments tend to increase each year until 1970. If the Catholic college is to continue to make an effective contribution to national collegiate education, the present faculty must begin to recruit for the future. The four million children who will be represented in the college classes of 1970 are already born, and we have only a little over 10 years to recruit their professors.

In this so called long range planning the common suggestions are first to actively campaign among the able undergraduates. This is not an administration job; it is a faculty job. The faculty members who work closely with distinguished students influence their destiny. Dr. Ray C. Maul writing in the "Journal of Higher Education" on "Recruiting College Teachers" rightly suggests that directing these young people is an extremely serious problem in guidance, and should be done with a knowledge not merely of the general need of instructors but of the fields in which they will be needed. The recently distributed "Teacher Supply and Demand in Colleges and Universities" gives a great deal of statistical information on this point. In his paper on the "Recruitment of College Teachers" previously referred to, Dr. Sullivan details a series of meetings conducted at Harvard and Radcliffe to inform the young people of these colleges of the impending need, and to attract them into the graduate schools in preparation for a college teaching career. We might ask ourselves whether enough of this sort of thing is being done in our colleges.

Another suggestion towards increasing the number of qualified college instructors is to encourage those presently on our faculty to go on for the Doctor's degree, and to assist them to do so. This gives the college an opportunity to reward a person known to be a good teacher, and at the same time to render him capable of rendering better and prolonged service to the college.

Another suggestion is to keep in touch with graduates of the college who have gone on to secular graduate schools. These young people frequently consider it an honor to be invited back to teach in a Jesuit college. Even if there were some reason why they might not wish to return, they often enough know other Catholic scholars working with them and with whom they can put you in contact.

I have presented a few thoughts on the recruiting, selecting and retaining of lay faculty members. This I have observed is a work that the administrators of our colleges have been engaged in rather extensively for many years and about which they know a great deal. As the de-

mands increase, however, and as the supply becomes less adequate, we may need to begin to make use of some of a number of presently popular suggestions to spread our faculty without increasing its members. I should like to conclude by saying that on that day—which seems destined to arrive—we shall be especially thankful for a greatly increased number of young qualified Jesuit instructors. These will have been prepared by the Society for leadership in our college classrooms. And may we dare to hope that when they have been found to be successful and productive, they will be left at their teaching tasks to challenge and inspire their lay colleagues.

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“A good teacher must know his subject. He needs to find in it large meanings and needs to master its details. He need not be a scholar, though he may well be. He is, however, master of what he teaches and why he teaches it and how to let his students into what he has.

“ . . . He builds a bridge. The way he takes is not ‘method’ got from a book or from another teacher. He gains freshness from books and from knowing another person’s ways, but in the end, he is alone. He follows his own clear-cut, personal, vital path toward the vital in others. . . .

“A good teacher needs more than ideas. He needs feeling about these ideas and about his students. He needs to realize the humanity of those he teaches; they, like him, are more than holders of facts. This feeling never sags into flatness of sentimentality. It is not false, professional, or casual. It can use severity in method and can require much, but it keeps its humanity. . . .

“Then, the teacher must work, in season and out, never ‘slothful in business.’ He just has to keep at it; he must hold, unendingly, to his purposes, and must, unendingly, preserve his feeling of a common and human bond.”—Percival Hunt, “The Teacher,” in *If by Your Art*



# The Purchasing Function in Higher Education\*

BROTHER JAMES KENNY, S.J.

The importance of purchasing as a specialized executive function has been recognized for many years. It is natural that industry should have led in the realization of the importance of efficiency in buying because keen competition has forced economy of operation and maintenance—first in production and later in procurement. While colleges and universities do not face competition in the same way industries do, many of them require appropriation of huge sums for supplies and equipment for operation and maintenance. Modern industrial corporations have recognized purchasing as one of the major functions of management, equal in importance to finance, production and sales. In educational institutions, not concerned with production and sales, it unquestionably takes its place alongside of finance and shoulders with it the main problems of management. Efficiency in expenditures is even more important in educational institutions than in industry. The latter can pass along higher costs and higher prices. A college or university is the ultimate consumer and must either curtail its activities or raise its tuition to make up for excessive expenditures. Whenever purchasing-department activities are under consideration, the question “how much does it save in a year?” is always raised. No method has been devised to answer this question accurately. Experts and governmental units are fairly well agreed that centralization of the purchasing function in such units results in savings of 15 to 25 percent depending upon the degree of efficiency obtained before centralization and also in the ability and experience of those placed in responsibility after a purchasing organization has been established. It probably could be demonstrated that \$75 expended by a well-organized purchasing department could easily go as far as \$100 without such a department.

Aside from actual money savings due to lower prices, there is probably an equal or greater saving due to activities which give less tangible but nonetheless extremely profitable results. Savings come partly from greater durability, longer life, sounder values and more satisfactory service inherent in items purchased with those factors in view as vital consider-

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\* Paper read at Conference of Business Officers of Jesuit Colleges and Universities. Washington, D.C., November 1957.



ations, and partly from the inherent efficiency of a centralized department. The concentration of the buying power in one office prevents duplication of effort and mistakes; provides uniformity of procedure and policy; saves the time of faculty and staff for their rightful academic functions; and develops a central clearing house of information and experience available to all.

It may be that many of the suggestions which follow will not be applicable to all the Jesuit institutions represented today, but it is hoped that they will result in recognition of the importance of the purchasing function and will stimulate those in charge of that branch of administration to use wisely the funds available for the furtherance of Catholic higher education.

Most of our Jesuit institutions of higher learning have provided for a business management. They may or may not have specifically provided regulations for the expenditure of departmental appropriations. Sufficient authority should be vested in the officer responsible for making purchases for all the various departments of the institution upon request of the professor or officer in charge. Such authority should also specify that except where expressly provided, no purchases should be made or indebtedness created in the name of the institution except upon order of the procurement officer and that he should not enter into any indebtedness in excess of the amounts duly appropriated or authorized.

In addition to the need for specific authority, it is of primary importance that an actual purchasing department be established. Even in the smaller institutions where the individual acting as purchasing agent has other duties to perform and where the personnel is limited to one or two clerical assistants, the designation of a department should be granted to the purchasing function. This procedure will assist materially in effecting the centralization of purchasing and the establishment in the minds of faculty and staff the knowledge that the expenditure of funds is under the direct control of the business administration of the institution.

The next step is to determine precisely the duties and responsibilities to be vested in the new department and to make certain that these are clearly stated in a memorandum to every person on the administrative or academic staff who is likely to have anything to do with procurement of supplies or equipment. It is also wise to advise all regular sources of supply that all obligations against the institution for purchases will be made only by means of written orders issued by the purchasing department.

The extent of the authority, duties and responsibilities of the purchas-

ing department will vary. Never will the problems facing the administrative staffs be exactly the same. Size of the institution, its location, schedule of courses, endowment, connection with state and federal agencies, all may have an effect upon the type of management best suited to the administration of that particular institution.

I also recognize that many of our Jesuit educational institutions are relatively small and those who act as procurement officers also have other duties in connection with administration. These duties are most frequently connected with the General Business Management, Finance Accounting and Maintenance. In the larger universities, it is usual to find well-organized purchasing departments with one or more individuals spending their full time on the problems connected with purchasing and allied activities.

Some institutions have found it advisable, I know Fordham has, to issue a handbook outlining the procedures to be followed in connection with the expenditure of departmental appropriations. This includes not only specific instructions for issuing requisitions against the purchasing department but describes the method adopted for handling such items as interdepartmental transactions, payment of bills, etc. Such an outline of procedure, revised from time to time, can be of inestimable service in orientating new members of the faculty and staff in providing an approved statement of policy for ready reference.

Having provided for the authority and the establishment of a purchasing department, and having outlined its duties and prerogatives, I must emphasize that adequate space be provided for its efficient operation. The accumulation of pertinent information and records will begin immediately and will grow both in volume and value as time goes on. Once in operation, the tendency will be for the department to become more and more recognized as a service department and to absorb additional functions.

It is vitally important that the responsibility and authority for all purchasing be centralized in the purchasing department, and steps should be taken by the administration to make certain that this fact is recognized both by the department initiating requisitions and by firms with which the institution is dealing. Only through such centralization can the maximum advantages accrue to the institution. These advantages are many and obvious. They range all the way from reduction of personnel; avoidance of duplication of effort; assurance of quality; standardization; improvement in purchasing methods; uniformity of procedure and forms; redemption of unused equipment; prompt payment of bills; legal protection; all the way down to control of supplies and inventory.

I should like here to talk at some length of one specialized function of the purchasing department, and that is, planned purchasing. Planned purchasing can be defined as a plan of arranging in advance for one's needs for the next year or two. To us it also means getting three jumps ahead of the department heads and staying there. Choosing our commodities from a chart showing the dates when large expenditures are usually made, we begin our study weeks ahead of the usual order date. We prepare and adopt specifications; gather samples and prices, and then before the department head asks us, we have our information at hand. When a department head knows we are trying to be of service to him without in any way questioning his ability and judgment, we usually find our information is welcomed and studied. Frequently, a new source of supply or a better product for the same price is adopted.

The policy of planned purchasing has been well-established in many of the older colleges and universities for a number of years, while in some of the smaller colleges this policy may be in effect to a limited extent only or not at all. A policy of planned purchasing is gradually evolving at Fordham. This policy has enabled us to purchase more efficiently than before and to effect some very definite savings and to render a helpful service to our department heads. In our case we planned ahead on a few major purchases such as fuel, but not on the hundreds of items which experience has now proven should be given their proper share of study and planning. For example, our sheet for the month of March says that it is time to reorder equipment for the baseball and track teams. In the month of April we order our commencement weeks supplies. In the month of June, it is time to renew our oil and fuel arrangements for the coming year. On the sheet for July we find a notation of a new source of supply for a maintenance product which we usually buy in the fall of each year. This information will be sent to the Physical Plant director before his order is placed for this product. This guide permits a flexible daily schedule because each duty is noted therein well in advance of the actual date on which the decision should be made.

For heavy volume purchases such as fuel, assurance of supply for the year is essential. While price is pretty well fixed by governmental decree, the essential factors of quality of material, availability and reliability of supplier must be more thoroughly studied than ever before. In these days, new school construction is at an accelerated pace. Furniture may be required for a unit or as a replacement and in this field quality of raw material is as essential as workmanship. A supplier should be chosen who can show evidence of satisfactory stock of raw material and satisfactory evidence of ability to live up to the terms of the contract.

The procurement of supplies of various kinds in small volume is a problem we all tend to slight. It is probably true that the smaller the purchase the less the needs will be anticipated and the louder the protests if it is not forthcoming.

It is axiomatic that as much material as possible of every nature should be stored in a systematic and orderly manner that will make such supplies readily available yet inaccessible to all persons other than those responsible for the care and issuing of them. The conditions under which they are stored should be such that loss through deterioration or breakage will be entirely eliminated or at least reduced to a minimum. Of equal or even greater importance is an accurate inventory control. An accurate perpetual inventory is as useful a tool in efficient and intelligent purchasing as it is in respect to accounting for supplies and preventing their waste. Unless someone has carefully thought through the problems of operating a stores department and carefully organized the proper control as it concerns physical commodities and records in connection with keeping such commodities, a storeroom can become actually a liability rather than an asset to your institution. If the procedures have been worked out properly and are continually reviewed, however, you should achieve a great deal in the way of proper management control for the benefit not only of the purchasing department but of the institution as a whole. It must be remembered that the responsibility for continuous adequate stocks of commonly used items is centered in the procurement department.

Another outstanding reason for having a stores department as well as carrying on many of the other procurement functions is to take advantage of the cash savings achieved. It must be remembered that so-called quantity discount brackets also have hidden dangers but we are assuming that you would not order a ten-year supply of an item merely to achieve an additional ten-percent discount. Bidders are much more interested in giving us a good price for an order that might aggregate one hundred, five hundred or three thousand dollars than they would be in numerous small orders. We are also able to concentrate purchases with selected vendors and by such a procedure are able to achieve a preferred status in marketing channels.

Perhaps you will say that what I have just been speaking about for the last few moments is purely theoretical. People are not machines. Perhaps nowhere in the educational institution is the selection of personnel more important than in the purchasing department. It is always a contact department. Its staff is working constantly and closely with the academic faculty of the institution. Faculty assessments of administrative efficiency and the outside industrial world's opinion of the institution may be largely influenced by the character of the contacts with the purchasing



department. Too much care cannot be exercised in the selection and maintenance of a staff of high character, intelligence and adaptability.

It is common knowledge that education alone cannot be depended upon to develop the traits of personality most essential for success in business. Alertness of mind; research attitude; ability to work successfully with others; facility in human relationships; capacity for analysis and expression are inherent or acquired by painstaking and cautious development. Those who possess a majority of such traits have a distinct advantage in the race for achievement in the business world. Attention is called to a statement in University Educational Business printed some years ago "that a mere knowledge of business facts and principles gained at second hand is of far less importance in preparing the student for a business career than the development of his capacity for applying imagination and intelligence in attacking and solving concrete problems."

It is important to provide for continuity of experience and training by developing competent assistants within any organization. Vacancies can be filled most satisfactorily by those who have been brought up in the atmosphere of the institution in which they will work. Assistants in the purchasing department should be selected and trained for advancement to positions of greater responsibility when eventualities create vacancies.

The following brief statements may serve as an indication of basic requirements:

1. Honesty and integrity should be requisite. This is just as important in those who control expenditures as those who actually handle money. Ethical as business is generally, there are temptations confronting the buyer.
2. Educational background and experience are necessary to insure the ability to reason calmly and logically and to appreciate what constitutes real value in goods purchased. Regulated and right buying is a study in economics.
3. Ability to deal with people is vital when a purchasing agent encounters all types of humanity. Not only is he constantly matching wits with trained sales representatives, but must expect to find favoritism and prejudice within his own institution and must handle these cases with tact and still keep the good will and respect of those whom he serves.
4. Personality and likeableness are essential when dealing with others, not only outside the department, but within it. The complete elimination of friction within an organization is the first essential for efficient operation.
5. Executive ability must be possessed by those who supervise even a small group of employees. The development of loyalty, efficiency and cooperation with a department are functions of an executive.



# Catholic High Schools and Catholic Colleges of Engineering\*

JASPER GERARDI

This paper will attempt to present some of the philosophy of engineering education, discuss a method for improving the relation between our Catholic high schools and Catholic colleges of engineering, and present the profession's position relative to the shortage of engineers.

The first signs of an industrial revolution became apparent in this country about 1865; however, it took 35 years before its impact on the ensuing social, economic, and cultural changes were appreciated by our economy. The period between 1900 and 1930 was one of our most productive and a standard of living second to none was established. It was also during this period that we were to witness a rapid expansion and growth in so-called "hardware" industries, transportation, communication, and services necessary to the health and welfare of our communities. Engineering was edging toward professionalism; but in serving society, engineers were so obsessed by a desire to perfect technology, that they became oblivious to their responsibilities in our social and economic order.

In 1924 the Society for the Promotion of Engineering Education (now American Society for Engineering Education) decided to make a thorough investigation of the profession and in 1929 published its famous "Wickendon Report." The need for people who understood human and social values was most apparent in every phase of the investigation! Engineering schools were graduating "human machines" instead of educated men. The situation had to change if a semblance of balance were to be maintained between the industrial and social processes of our economy. The Wickendon Report revolutionized engineering education, for not only were minimum standards established for technical instruction, equipment, administration, libraries, etc., but strong recommendations were made to revise curricula to include approximately 20 percent of the credit hours required for graduation in the field of humanities.

Moreover, industrialists, national engineering societies, and State Boards of Registration participated in the investigation, and in 1932 the

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Engineers Council for Professional Development was established, to implement the recommendations made by the society. It is this agency which today accredits engineering colleges, determines the minimum qualifications for professional engineers, and keeps the profession dynamic.

Following World War II, a new industrial revolution began to appear on our American scene, but this time it didn't take 35 years to appreciate the fruits of scientific and fundamental research. Nuclear energy as a source of power, automation, electronic computers, ultra-sensitive complex controls for our guided missiles and earth satellites, solar energy, and many innovations have been given to engineers for production and further development.

The complexity of these products made it clear that a transition was taking place. Engineers and technicians must increase their knowledge of higher mathematics and the physical sciences if they are to continue their dominant role in building and maintaining American industrial superiority. Engineering, which formerly served an economy based on mass production and technical "know how", must now support an economy which depends on mass production, technical "know how" and advanced science. Normally, problems resulting from the effects of scientific advancement can be absorbed and solved by practicing engineers, but when new discoveries occur almost daily, it becomes imperative that we educate and prepare our students for the immediate obligations of the profession. In 1952 E.C.P.D., recommended that a committee selected by the American Society for Engineering Education undertake to again evaluate engineering education. The committee was instructed "to recommend the pattern or patterns that engineering education should take in order to keep pace with the rapid developments in science and technology, and to educate men who will be competent to serve the needs of, and provide the leadership for, the engineering profession over the next quarter-century."

The Committee made its final report and received the society's approval in June, 1955. The evaluation concerned itself with all phases of engineering education and in particular with curricular content as related to the objectives of the profession. With reference to curriculum, the report states: "Engineering education must contribute to the development of men who can face new and difficult engineering situations with *imagination and competence*. Meeting such situations invariably involves both professional and social responsibilities. The Committee considers that *scientifically oriented engineering curricula* are essential to achieve these ends."

Special recommendations were made which, in effect, closed the gap between science and engineering and emphasized with more vigor than previous evaluations the importance of humanistic and social studies. The report states: "If the student is to be provided with a foundation upon which he may build a career of *professional* stature, his education must help him to seek his *fullest development as an individual*. This involves stimulating his imagination, instilling a *respect for learning in all its forms*, and creating an awareness of the great variety of ways *in which man has sought order and meaning in the universe*." These words, not to mention their true meaning and understanding, were foreign to many engineering schools.

These facts have been presented to show that the engineering profession is conscious of its obligation to society and that it attempts to create an awareness of, and concern for, education which will develop men who are not only competent in technical science, but men who understand human values.

An attempt has also been made to bring out the fact that engineering training will shift much of its emphasis from the practical and utilitarian to the scientific and cultural. In view of this transition in engineering education, our present method of teaching both in high school or college should and will change.

Courses in college now are much more challenging. For example, in most engineering colleges mathematics is no longer taught in compartments. Algebra, trigonometry, analytic geometry, and calculus have been integrated and the freshman is introduced to calculus about the third week of school. Formerly laboratory exercises were of such nature that students could read a few dials and gauges, write the data on blank spaces in their manuals, and call it a day. Now students work on projects where very often they design much of their experimental equipment and look to technical journals instead of text books for information appropriate to their project. Answers to the problems are usually derived from higher mathematics, scientific logic, and judgment. Nor does the problem necessarily end with the solution of its technical aspects. If appropriate to the study, students may be required to look into its economic and social aspects. It is not unusual, for example, to have civil engineers, architects, and students majoring in economics and accounting work on a project involving city planning.

At the University of Detroit, we have been experimenting with curricula, course content, projects, and other phases of our program. Next semester we plan to raise the level of our chemistry courses, include theoretical physics in our freshman year, require more mathematics and

modern physics of our sophomores, and increase the amount of engineering sciences in our upper division program. All this, without reducing the 12 credit hours of English, 8 credit hours of Theology, and 6 credit hours of Philosophy required for graduation.

So far, the results of our experiments have been extremely encouraging. A recent comparison of the academic performance of the 1951 freshman class which followed a standard engineering program, with the class of 1955 which was given the "beefed-up" mathematics courses, show the following:

	<i>Honors</i>	<i>Good Standing</i>	<i>Probation</i>	<i>Required To Withdraw</i>
Sept. 1951	25 students	186	104	33
	7.0 % of class	52.3	29.2	9.3
*Sept. 1955	51 students	316	89	32
	10 % of class	61.8	17.4	6.3

\* The above figures do not add to 100%. The remaining percentages refer to students who withdrew voluntarily because of financial difficulties, health, etc.

With our more advanced students we have noticed a marked increase in papers presented at competitions sponsored by national engineering societies, an increase in the number of students attending graduate schools, and more important, an increase in the number of papers dealing with the philosophical, ethical, and educational contributions of engineering to our way of life.

Experimentation in engineering education will continue for several years before scientifically oriented curricula begin to form a pattern. Meanwhile, commissions on mathematics, physics, and government educational agencies are also recommending changes in the standards of our secondary schools. There is strong evidence that confusion is resulting from those who would have crash programs in science, and the more conservative who wish to raise the level of American education, but not at the sacrifice of progress in the humanities and social sciences. The position of secondary education is not to be envied. Pressure from public opinion on one side, and pressure from higher education seems to have created a perfect "squeeze play." We, in Catholic education, need not be caught in the squeeze if we coordinate some of our activities and improve high school-college articulation through cooperative endeavor.

Engineering is defined by the American Engineering Council as follows: "The science of controlling the forces and utilizing the materials of nature for the benefit of man, and the art of organizing human activities in connection therewith." This definition is broad and certainly any engineering college, public or private, can pattern its objective to it. The



Catholic college, however, must consider this definition woefully short of its objectives, for it fails to even suggest the necessity of training man to understand moral and philosophical truth, so important in any profession. We can offer the American public educational values which no other institution can offer, and yet we lose some of our best high school students to the Ivy League or state-supported institutions. Why? There are many good reasons; but ignoring finances, buildings, and educational luxuries, isn't it quite possible that we could attract more qualified students to our engineering colleges if we improved communication between administrations, faculties, and students?

During the past ten years it has been my privilege to coordinate the pre-engineering programs offered in eighteen Catholic Liberal Arts Colleges with the cooperative engineering program offered at the University of Detroit. Prior to this activity, very few students transferred to our school. Because of a lack of communication between administrators and student advisers or counselors, those who transferred usually found themselves disqualified for industrial cooperative training; to make matters worse, they had been told by their counselors that they could enter Detroit as Juniors, only to find themselves classified as Sophomores, which necessitated an additional semester or a year of academic work to enter our Junior year. To solve this problem, the University's administrators approved a project whereby schools which offered pre-engineering would be visited to see what could be done to improve the situation. Through excellent cooperation, curricula were revised to parallel each others, counselors were informed of changes and trends in the profession, and course contents were revised to conform with the requirements of the profession.

As a result of this program, approximately 500 students have graduated from our college, many of whom would otherwise have gone to state schools.

Wouldn't a cooperative effort similar to this establish a much needed line of communication and improve the relation between our Catholic high schools and colleges? I think so, but before we explore this further, a few observations relative to students who come from our secondary schools may be in order. As to moral character, integrity, obedience, and character traits, students from Catholic high schools excel. With reference to mathematics, physics, and English, students from Jesuit high schools are better prepared than those from other Catholic schools. They are equal, but not superior, to students from the public schools. All students entering our freshman engineering class have very little or no conception of what engineers do, the requirements of the profession, and the amount



of higher mathematical and scientific preparation and study required to earn a degree. Students' motivation seems to derive from newspapers, magazines, and television programs which present the glamorous, adventuresome, and richly rewarded aspects of the profession, rather than from an informed counselor who might discuss these aspects after he has determined the student's intellectual capacity, interest, and aptitude for this type of training.

It seems to be fashionable today to place blame, through fault-finding, on everyone connected with education. This is not intended; in fact, a tremendous improvement in counseling is evident from conferences with pre-college students. If blame is to be placed on any one, it should be placed on the engineers for not doing a good public relations job, and on the college educators for a lack of communication between colleges and high schools.

For example, I stated a moment ago that the engineering curriculum will orient itself toward the scientific. If this is so, how would our Catholic high school officials be informed of this change, and the requirements for this kind of curriculum? Questions paramount in the minds of many high-school principals at this moment are similar to these: Should solid geometry be eliminated from the mathematics sequence? Would you prefer a course in probability and statistical inference rather than solid geometry, advanced algebra, or trigonometry? In our physics courses, should we place more emphasis on electronics and de-emphasize optics and sound? I have received numerous queries concerning these subjects, but not one relative to reading, English, or the humanities. Yet the facts are that most high-school students who fail engineering in the freshman year do so because they cannot read and write at college level. Surely a way must be found to answer questions of this nature and communicate observations if we hope to improve our educational standards.

At the University of Detroit we plan to establish a line of communication between our high schools and the University, for it becomes imperative for us to take the initiative if we expect high-school students to qualify for admission to our engineering program.

Briefly stated, our tentative plan is to meet with high-school administrators, counselors, or faculty, on an individual and informal basis to discuss the trends in engineering education and the profession, arrange for occasional meetings of high-school and college faculty to talk about their subjects and courses, and if necessary supply manpower to help counsel students who are interested in engineering and science.

We also plan to offer a special testing and counseling service which is designed especially for engineering and science students. No testing

program is infallible, but a good estimate of the student's talents and academic ability can be made if, in addition to the tests, a personal conference is held with the student at which both high-school and college counselors are present. This should prove to be a better method of evaluating a student's qualifications rather than arriving at a decision based on information given on an application form.

Engineering educators recognized the need for high school-college articulation and presented their recommendations in the 1955 Report On Evaluation of Engineering Education. In part they are as follows:

1. To determine specific techniques for identifying, and encouraging high-school students who have aptitudes for engineering or science.
2. To determine methods for developing adequate study habits and a suitable level of performance in reading ability for those students planning to attend college.
3. To develop specific techniques of reaching high-school faculties and administrators in order to enlist their cooperation in a constructive program to improve the quality of high-school preparation, particularly in mathematics, physics, chemistry, and English.

Since the report was published, much has been done among state colleges to implement the recommendations of the Society. I believe that we in Jesuit Colleges of Engineering, can provide the leadership and assume some of the responsibility for improving the relation between our Catholic high schools and Catholic colleges of engineering.

A few words of caution relative to the shortage of engineers may be of interest. There is danger in all the propaganda which is currently disseminated. The public is led to believe that there is a shortage in *numbers* of engineers. This is true, depending on what we mean by shortage and what meaning we give to the word engineer. Even during this recession there is much demand for engineers who have a knowledge of engineering sciences and who take pride in the quality of their work. At present the supply for this kind of engineer is critical. The supply of so-called engineers, who have little or no mathematical or scientific training is not critical by any means. It is estimated that more than half of the 400,000 "engineers" in this country fail to meet the minimum requirements of the profession. The requirements are: four or more years of college, four years of active practice in engineering work, and success in a written examination prepared by the State Board designed to qualify the applicant for responsible charge of engineering work and to render him a valuable member of society.

The February 1958 issue of the *Michigan Professional Engineer* pub-

lishes the position taken by the National Society of Professional Engineers. Its observations, in part, are as follows:

1. *Special action* to increase today's supply of engineers is not considered necessary or desirable since engineering enrollments are at an all-time high and are continuing to increase.
2. An *artificial stimulation* to further increase enrollments in engineering will severely handicap institutions that devote adequate attention to the capable students.
3. Assumption that Russia launched the earth satellite before the United States solely because it had trained more scientific personnel in recent years than this country, we believe is not valid and could lead to unwise and damaging decisions.
4. Emphasis now, more than ever, should be placed on quality rather than quantity. Potential engineers should be better grounded in fundamentals when they enter the engineering educational program and should be better informed as to the qualifications essential for an individual to become a successful engineer.
5. It should be emphasized that projects such as the earth satellite, guided missiles, etc., depend on highly advanced technology—a mere increase in numbers of those with first degrees will not provide the type of highly advanced technical knowledge which is necessary.

To summarize what has been stated previously: Engineering arose from the need for men who could add scientific knowledge to the industrial arts. It thrives because universities have added scientific knowledge to the practical aspects of the mechanical arts and because its graduates have been able to assume positions of leadership in industry. I am convinced that Catholic engineering education can truly satisfy the objective as set forth in the latest report on the Evaluation of Engineering Education and that we should encourage our qualified and interested Catholic youth to enter this noble profession, especially in view of the fact that the work is primarily with industrial organization, rather than individual, and that he, as a Catholic, may influence decisions which affect the economic and social welfare of a community.

If we accept the premise the Catholic influence is good for the engineering profession, then a better understanding of the philosophy of engineering education, more cooperation, and clearer communication between our schools becomes essential. This can best be accomplished by an increase in the cooperative efforts between secondary school and college administrators, establishing a line of communication between college and high-school teachers, and by planning personal interviews between informed counselors and students. It seems like a huge task, but it really isn't, neither in terms of money or time, but the reward for the small amount of effort will be great.

# News from the Field

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● **COLEGIO SAN ALONSO:** *Tertianship for Brothers*, Colegio San Alonso, 800 Hilton Avenue, El Paso, Texas, the new House of Tertianship for the Coadjutor Brothers of the American Assistancy and the Province of Upper Canada was officially opened as a House of the New Orleans Province with the appointment of Father Henry Tiblier, S.J., as Superior on the Feast of St. Ignatius.

The Tertianship occupies the buildings formerly known as Ysleta College and was purchased from the Jesuit Province of Northern Mexico.

Ysleta College, planned in 1924 and completed about two years later, served as the Novitiate, Juniorate and Philosophate of the exiled Mexican Jesuits until 1942, and as their Philosophate only until 1951. Since the latter date it had remained vacant and unused until the Province purchased it last fall and began the extensive work of renovation and refurbishing.

Located atop a high mesa, some twenty-odd acres in extent, which overlooks the Rio Grande valley, the College comprises three buildings. The largest and most imposing is a red brick, E-shaped building running 386 feet in parallel with the face of the mesa, with a depth of slightly over 100 feet along the three arms of the E. The central arm contains the chapel, which should comfortably contain some three hundred fifty persons. The building is two stories high, but the semi-basement under the center and the western end of the building really adds another full story. This main building contains 26 large rooms and 96 regular rooms, totaling 122 rooms, or 42,712 square feet.

Besides the main building there is the former Philosophers' building, measuring some 100 x 40 feet and containing a small auditorium and 22 additional rooms. Finally, there is the former Brothers' building, equal in size to that of the Philosophers' building, with 17 more rooms with ample storage space on the first floor. The total number of rooms for all buildings is 164 (though some of these would have to be combined for additional class rooms), giving an area of 76,912 square feet. A large garage, a work-shop, a swimming pool (with our own well), and three large hand-ball courts complete the construction on the property.

Colegio San Alonso will welcome its first group of Brother Tertians on September 15.

● **PERSONS:** *Bene Fecisti*, Creighton Prep of Omaha will never be the same again. Father Henry Sullivan, S.J., one of the most well known and



most beloved of the Principals of the American Assistancy, is stepping down after 29 years of service as Principal at Creighton Prep. The Denver Institutes, the various J.E.A. meetings, will not be the same without the sage and tart comments of Father "Heinie" Sullivan.

NEW PROVINCIAL: Father John A. McGrail, S.J., Detroit Province

NEW PROVINCE PREFECTS: Father Herman J. Hauck, S.J., (Calif.) will assume his new duties as Province Prefect of Studies for the Universities. Father John M. Hynes, S.J., (Calif.) will become Province Prefect of Studies for High Schools.

NEW SUPERIORS: Father John F. Connolly, S.J., Rector, Los Gatos (Calif.), Father Patrick A. Donohoe, S.J., Rector-President of Santa Clara (Calif.), Father Charles Dullea, S.J., Rector, Univ. of San Francisco (Calif.), Father William J. Keenan, S.J., Rector, Bellarmine, San Jose (Calif.), Father Vincent G. Savage, S.J., Rector, St. Ignatius High, Chicago.

● BUILDINGS: *Regis College* of Denver had a \$160,000 face lifting this summer. Buildings in the program were Loyola Hall, Carroll Hall, De Smet and Main Hall.

*LeMoyné* of Syracuse opened up their new \$800,000 Faculty Building in time for the new school year. It will accommodate 46 Jesuits.

*Holy Cross* of Worcester has broken ground for a new \$1,157,000 Science building. A feature of the building, due for 1959 completion, is a radiation laboratory having heavy concrete walls and a solid lead door.

*Wheeling* College has broken ground for a new men's dormitory.

*St. Joseph* College of Philadelphia plans a classroom building, a library, a student center, and a faculty residence. The last two will be financed by government loan.

*Marquette* University of Milwaukee expects completion for September of 1959 on a five story Journalism Building.

*Jesuit High* of Tampa hopes for completion of their new cafeteria building in time for the current school term.

*Campion* of Prairie du Chien has broken ground for a new student residence hall. Completion is hoped for in the summer of 1959.

*Jesuit High* of Dallas has made final plans for their new Retreat House. The House, to open in March of '59, will contain 35 private rooms and will be completely air-conditioned.





